20 inch TFT LCD Colour Monitor

Chassis: UH6

Service
Service
Service

200W6CB/27
200W6CS/00

Service Manual

Horizontal frequencies
30 - 93KHz

TABLE OF CONTENTS

SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

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飛利浦 PHILIPS

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company** Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

* *Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

WARNING

Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken Line

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with Backlight unit

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person s body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

FOR PRODUCTS CONTAINING LASER :

DANGER- Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION- The use of optical instruments with this product will increase eye hazard.

Technical Specifications*
LCD PANEL
- Type: TFT LCD
- Screen size: 20.1" / 51cm
- Pixel Pitch: 0.258 x 0.258mm
- LCD Panel type: 1680 x 1050 pixels
R.G.B. vertical stripe
Anti-glare polarizer, hard coated
- Effective viewing area: 433.44 x 270.9 mm
- Display Colors: 8 bits interface (16.7M colors)

SCANNING
Vertical refresh rate 56Hz-85Hz
Horizontal Frequency 30kHz-93kHz (Analog input)

VIDEO
- Video dot rate: 165 MHz
- Input impedance
  Video: 75 ohm
  Sync : 2K2 ohm
- Input signal levels: 0.7 Vpp
- Sync input signal:
  Separate sync
  Composite sync
  Sync on green
- Sync: polarities Positive and negative
- S-Video: Y input 1.0Vpp, C input 0.3Vpp, 75ohm input impedance
- CVBS Composite, 1.0Vpp, 75 ohm input impedance
- Video interface
  D-Sub (Analog)
  DVI-D (Digital)

AUDIO-IN
- Input signal level :0.7 Vpp
- Headphone out signal level: 20mW x 2, 32
- Input signal connector :3.5mm mini jack
- Loudspeaker: 4W Stereo Audio
  (2W/channel RMSx2, 200Hz-12kHz, 4 ohm,THD=10%)

Optical characteristics
- Contrast ratio: 600:1 (typ).
- Brightness: 300 cd/m2 (typ.)
- Peak contrast angle 6 o'clock
- White Chromaticity:
  x: 0.283 y: 0.297 (at 9300° K)
  x: 0.313 y: 0.329 (at 6500° K)

- Viewing Angle:

(C/R>10)
Upper >88° (typ.)
Lower >88° (typ.)
Left >88° (typ.)
Right >88° (typ.)

- Response time
  16 ms (typ.)

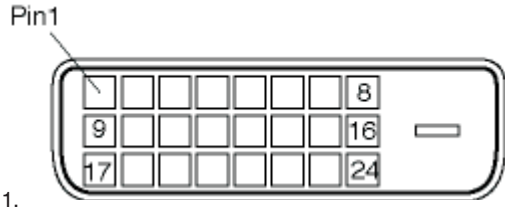
Physical Specifications

- Dimension (WxHxD) : 478 x 423.5 x235 mm (incl. Pedestal)
- Weight : 7.6 Kg
- Tilt / Swive : -5° ~ 25° / ± 125°
- Power supply : 100 — 240 VAC, 60 - 50 Hz
- Power consumption : 50 W* (typ.)
-Temperature : 5° C to 40° C (operating)
  20° C to 60° C (storage)
- Relative humidity :20% to 80%
- System MTBF : 50K hrs (excluding CCFL 40K hrs)
- Cabinet color : 200W6CB: Black
  200W6CS: Silver
- Altitude
  storage/shipment: 0 - 40,000 feet (12,192m)
  operating :0 - 12,000 feet (3657.6m)

Pin Assignment

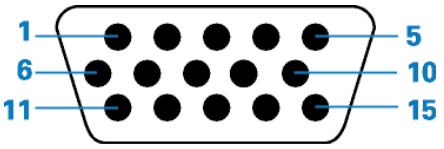
The digital only connector contains 24 signal contacts organized in three rows of eight contacts. Signal pin assignments are listed in the following table:

1.



Pin No.	Signal Assignment	Pin No.	Signal Assignment	Pin No.	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	No connect	12	No connect	20	No connect
5	No connect	13	No connect	21	No connect
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock+
8	No connect	16	Hot Plug Detect	24	T.M.D.S. Clock-

2. The 15-pin D-sub connector (male) of the signal cable:



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	+5V
2	Green video input/SOG	10	Logic ground
3	Blue video input	11	Ground
4	Ground	12	Serial data line (SDA)
5	No connect	13	H. Sync / H+V
6	Red video ground	14	V. Sync (VCLK for DDC)
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		

Technical Data

Resolution & Preset Modes

Maximum	1680 x 1050 at 75Hz(analog input) 1680 x 1050 at 60Hz(digtal input)
Recommended	1680 x 1050 at 60Hz * at DVI digital input

39 user definable modes
15 factory preset modes:

H. freq (kHz)	Resolution	V. freq (Hz)
31.469	640x350	70.086
31.469	720x400	70.087
31.469	640x480	59.940
35.000	640x480	67.000
37.500	640x480	75.000
35.156	800x600	56.250
37.879	800x600	60.317
46.875	800x600	75.000
48.363	1024x768	60.004
60.023	1024x768	75.029
68.700	1152x870	75.000
63.981	1280x1024	60.020
79.976	1280x1024	75.025
75.0	1600x1200	60
65.29	1680x1050	60.0

Optimizing Performance

- For best performance, ensure that your display

  settings are set at 1680 x 1050 @60Hz

Note: You can check the current display settings by pressing the 'OK' button once. Go into the Product Information. The current display mode is shown on the item called RESOLUTION

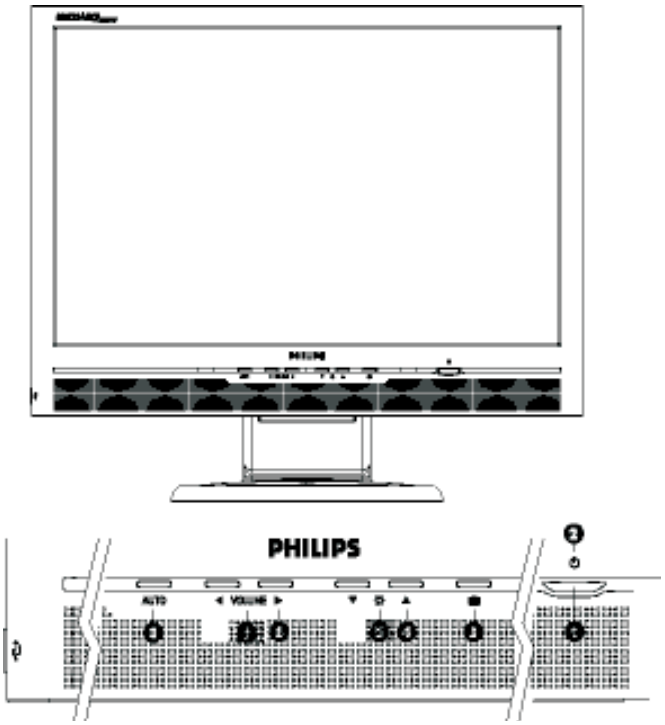
Auto Power Saving

If you have VESA DPMS compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. If an input from a keyboard, mouse or other input device is detected, the monitor will 'wake up' automatically. The following table shows the power consumption and signaling of this automatic power saving feature:

Power Management Definition					
VESA Mode	Video	H-sync	V-sync	Power Used	LED color
Active	ON	Yes	Yes	< 68W	Green
Sleep	OFF	No	No	< 1.5W	Amber
Switch Off	OFF	-	-	< 1.5W	OFF

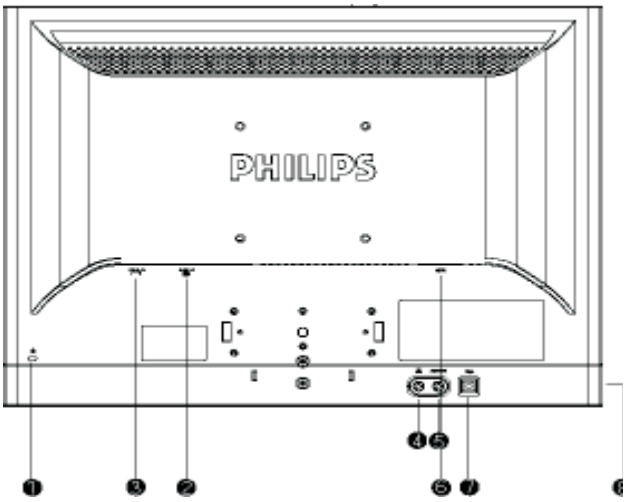
This monitor is ENERGY STAR® compliant. As an ENERGY STAR® Partner, PHILIPS has determined that this product meets the ENERGY STAR ® guidelines for energy efficiency.

Front View Product Description



1		To switch monitor's power On and Off
2		Power LED
3	OK	To access OSD menu
4		To adjust the OSD
5		To adjust brightness of the display
6		To adjust the OSD
7	**VOLUME**	To adjust speaker volume
8	**AUTO**	Automatically adjust the horizontal position, vertical position, phase and clock setting

Rear View



1 Kensington anti-thief lock
2 VGA input
3 DVI-D input
4 PC audio input
5 Earphone jack
6 AC power input
7 USB upstream port
8 USB downstream port

Accessory Pack

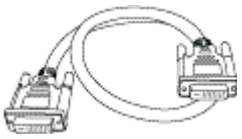
Unpack all the parts.


Power cord


VGA signal cable


PC audio cable (lime)


Mac adaptor (optional)


DVI cable

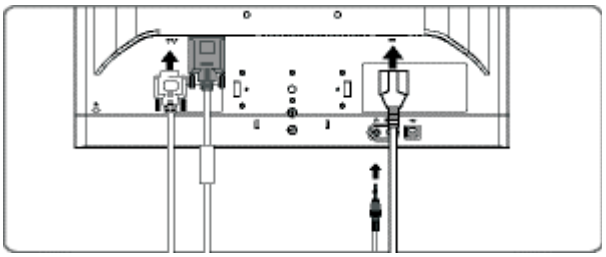

USB cable USB cable


EDFU pack

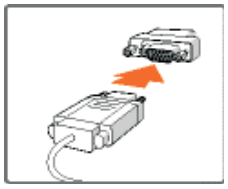
Front Control & Connection

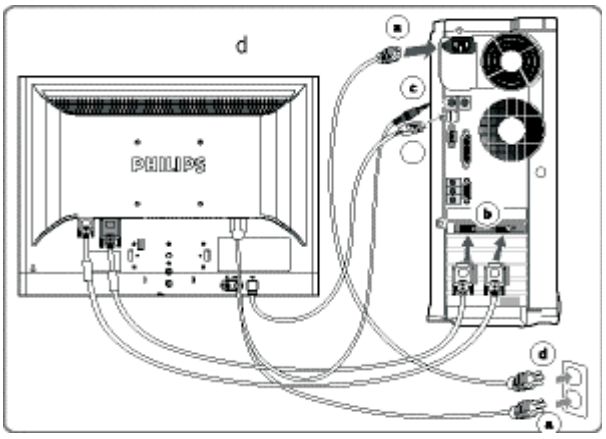
Connect to PC

Connect the power cord, DVI and audio cable to the back of the monitor firmly. (Philips has pre-connected VGA cable for the first installation.)



If you use an Apple Macintosh™, you need to connect the special Mac adapter to one end of the monitor signal cable.





Connect the cables to the back of your computer by following these steps:

(a) Turn off your computer and unplug its power cord.

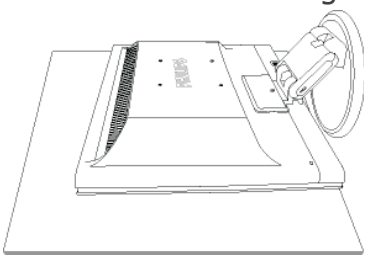
(b) Connect the VGA or DVI cable to the video connector.

(c) Connect the audio cable.

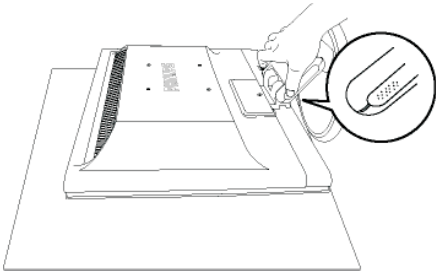
(d) Plug the power cord of the computer and the monitor into a nearby outlet.

(e) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

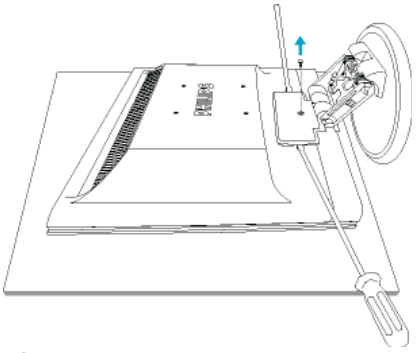
VESA Standard Mounting



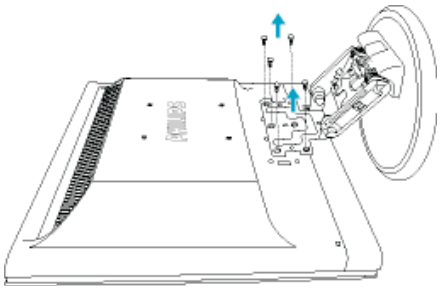
1) Place monitor face down on a safe surface.



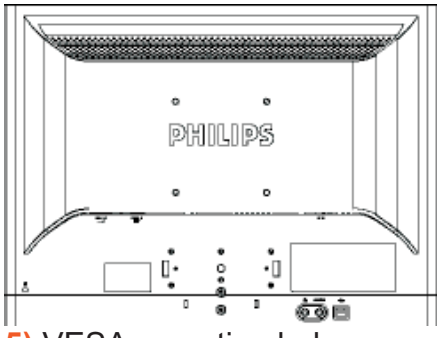
2) Remove the cable cover.



3) Remove the base cover.



4) Unscrew the 5 screws at the base.

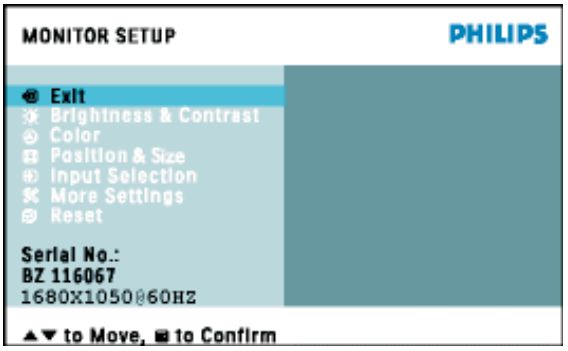


5) VESA mounting holes

Basic and simple instruction on the control keys.

When you press the OK button on the front control of your monitor, the On-Screen Display (OSD) Main Controls window will pop up and you can then start making adjustments to your monitor's various features.

Use the ◀▶ or the ▲▼ keys to make your adjustments.



The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.

PC analog signal (VGA) input mode

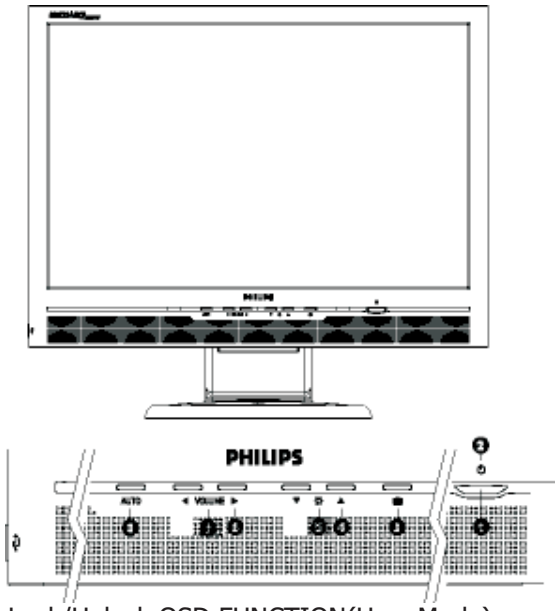
- Exit
- Brightness & Contrast
  - Brightness
  - Contrast
  - Back
- Color
  - Original Color
  - 9300K
  - 6500K
  - sRGB
  - User Define
    - Red
    - Green
    - Blue
  - Back
- Position & Size
  - Position
    - Horizontal
    - Vertical
    - Back
  - Size
    - Full Screen
    - Native Modo
    - Fill With Aspect
    - Back
  - Back
- Input Selection
  - Analog
  - Digital
  - Back
- More Settings
  - Language
    - ENGLISH
    - ESPAÑOL
    - FRANÇAIS
    - DEUTSCH
    - ITALIANO
    - 中文
    - Back
  - Phase/Clock
    - Phase
    - Clock
    - Back
  - OSD Settings
    - Horizontal
    - Vertical
    - Back
  - Audio Options
    - Stand-alone
    - Mute
    - Back
  - Back
- Reset
  - No
  - Yes

PC digital signal (DVI-D) input mode only

- Exit
- Brightness & Contrast
  - Brightness
  - Contrast
  - Back
- Color
  - Original Color
  - 9300K
  - 6500K
  - sRGB
  - User Define
    - Red
    - Green
    - Blue
  - Back
- Size
  - Size
    - Full Screen
    - Native Modo
    - Fill With Aspect
    - Back
  - Back
- Input Selection
  - Analog
  - Digital
  - Back
- More Settings
  - Language
    - ENGLISH
    - ESPAÑOL
    - FRANÇAIS
    - DEUTSCH
    - ITALIANO
    - 中文
    - Back
  - Phase/Clock
    - Phase
    - Clock
    - Back
  - OSD Settings
    - Horizontal
    - Vertical
    - Back
  - Audio Options
    - Stand-alone
    - Mute
    - Back
  - Back
- Reset
  - No
  - Yes

OSD Lock/Unlock, Aging Mode

Front Control Panel



To Lock/Unlock OSD FUNCTION(User Mode)

The OSD function can be locked by pressing"OK"button(1) for more than 10 seconds, the screen shows following windows for 3 seconds. Everytime when you press"AUTO" or "OK" button, this message appears on the screen automatically.

ATTENTION SIGNAL
OSD MAIN CONTROLS LOCKED

Unlock OSD function

Locked OSD function can be released by pressing "OK" button for more than 10 seconds again

ATTENTION SIGNAL
OSD MAIN CONTROLS UNLOCKED

NO VIDEO INPUT

This screen appears if there is no video signal input. Please check that the signal is properly connected to the video card of PC and make sure PC is on

ATTENTION SIGNAL
CHECK CABLE CONNECTION

CANNOT DISPLAY THIS VIDEO MODE..

This screen warns when the input frequency from the computer is not a standard video mode or out of the monitor's scanning range. Please change the display mode of the operating software in the computer(i.e.windows) to 1680*1050@60HZ for best display results.

ATTENTION SIGNAL
CANNOT DISPLAY THIS VIDEO MODE,CHANGE COMPUTER DISPLAY INPUT TO 1680*1050@60HZ!

WAIT FOR AUTOMATIC ADJUSTMENT

This screen appears when you press the "AUTO" buttons at the same time. It will disappear when the monitor is properly adjusted

ATTENTION SIGNAL
WAITING FOR AUTOMATIC ADJUSTMENT

Access Aging.. Mode

Step 1 : Turn off LCD monitor, and disconnect Interface Cable between Monitor and PC.
Step 2 : [Push AUTO " OK " & "AUTO" buttons at the same time and hold it]+[Press power " ⏻ " button until comes out " AGING screen"] => then release all buttons.

Bring up:

After 10 seconds, bring up:

After 3 seconds, bring up:

After 10 seconds, bring up:

---
repeatly
Connect Signal cable again=> go back to normal display

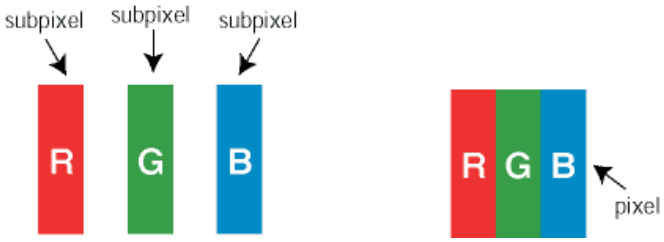
Warning Message Table

Item	Attention Signals	Display Time	Condition
1	CANNOT DISPLAY THIS VIDEO MODE, CHANGE COMPUTER DISPLAY INPUT TO 1680x1050 @ 60HZ	30 mins	This warning appears when the input signal from your computer is not in a standard video mode or is out of the monitor's scanning range. After 30 mins, monitor enters sleeping mode.
2	NO VIDEO INPUT	30 mins	This message appears when there is no signal input while power on. After 30 mins, monitor enters sleeping mode.
3	CHECK CABLE CONNECTION	30 mins	This message appears when a signal cable is disconnected while monitor is working. After 30 mins, monitor enters sleeping mode.
4	ENTERING SLEEP MODE	3 secs	This message appears when monitor is about to enter power saving mode.
5	WAITING FOR AUTOMATIC ADJUSTMENT	till auto adjustment finished	This message is displayed when the auto adjustment button is pressed. It disappears when automatic adjustments are completed.
6	USE 1680x1050 FOR BEST RESULT	On top of OSD main menu	The message will show up at the top of the OSD main menu in red color when the input resolution is not the 1280x1024.
7	OSD MAIN CONTROLS LOCKED	3 secs / or Till "OSD MAIN CONTROLS UNLOCKED" appear	This message will appear 3 seconds to indicate the OSD MAIN CONTROLS status when to lock or un-lock it by pressing "MENU(OK)" button for more than 10 seconds while there is video input from PC. This function provides the alternative that user can lock all the OSD main control in case user don't want the FOS performance setting to be changed, for instance, during commercial exhibition.
8	OSD MAIN CONTROLS UNLOCKED	3 secs	This message will appear 3 seconds to indicate the OSD MAIN CONTROLS status when to un-lock it by pressing "MENU(OK)" button for more than 10 seconds while there is video input from PC.
9	the window of "OSD MAIN CONTROLS"	60 secs	This message will appear when the "OK" button is pressed.
10	the window of "BRIGHTNESS"	60 secs	This message will appear when the BRIGHTNESS button is pressed.
11	The window of "VOLUME"	60 secs	This message will appear when the "OK" button is pressed
12	"SELECTED INPUT NOT AVAILABLE"	3 secs	This message will appear 3 seconds to indicate the SIGNAL SOURCE status when change the signal source but is not found while there is video input from PC

Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or subpixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels. For example, no more than 0.0004% of the subpixels on a 15" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide .

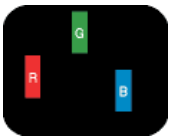


Pixels and Subpixels

A pixel, or picture element, is composed of three subpixels in the primary colors of red, green and blue. Many pixels together form an image. When all subpixels of a pixel are lit, the three colored subpixels together appear as a single white pixel. When all are dark, the three colored subpixels together appear as a single black pixel. Other combinations of lit and dark subpixels appear as single pixels of other colors.

Types of Pixel Defects

Pixel and subpixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of subpixel defects within each category.
Bright Dot Defects Bright dot defects appear as pixels or subpixels that are always lit or "on".
These are the types of bright dot defects:



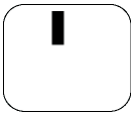
One lit red, green or blue subpixel

Two adjacent lit subpixels:
- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)

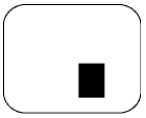
Three adjacent lit subpixels
(one white pixel)

Black Dot Defects

Black dot defects appear as pixels or subpixels that are always dark or "off".
These are the types of black dot defects:



One dark subpixel



Two or three adjacent dark subpixels

Proximity of Pixel Defects

Because pixel and subpixels defects of the same type that are nearby one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or subpixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	**200W6**
1 lit subpixel	3 or fewer
2 adjacent lit subpixels	1 or fewer
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	15 mm or more
Total bright dot defects of all types	3 or fewer
BLACK DOT DEFECTS	**ACCEPTABLE LEVEL**
MODEL	**200W6**
1 dark subpixel	5 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels	0
Distance between two black dot defects*	15 mm or more
Total black dot defects of all types	5 or fewer
TOTAL DOT DEFECTS	**ACCEPTABLE LEVEL**
MODEL	**200W6**
Total bright or black dot defects of all types	5 or fewer

Alignment procedure
1. Turn on the LCD monitor.
2.Turn on the Timing/pattern generator. See Fig.1
3. Preset LCD color Analyzer CA-110
-Remove the lens protective cover of probe CA-A30.
-Set measuring/viewing selector to measuring position for reset analyzer.(zero calibration) as Fig.2
- Turn on the color analyzer (CA-110)
-Press 0-CAL button to starting reset analyzer.

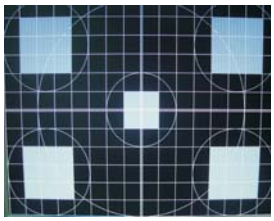


Fig. 1

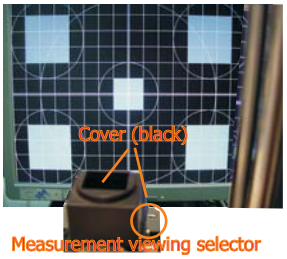


Fig. 2

4. Access Factory Mode

How to get into Factory Mode Menu
Step1:
Turn off monitor.
Step2:
[Push AUTO "AUTO" & OK " OK " buttons at the same time and hold it]
+[Press power " ⏻ " button untill comes out "Windows screen"]
=> then release all buttons
Step3:
Press OK " OK " button, bring up Factory mode indication as shown in Fig3.

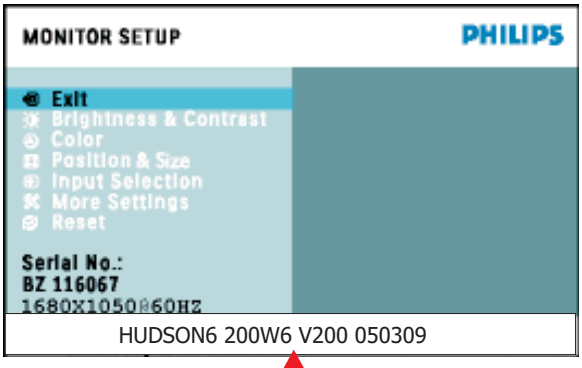


Fig. 3

Step4:
- Press "OK" button, then select factory mode indicator by" ▽ " button
- Press"OK" button to bring up submenu windows as below:

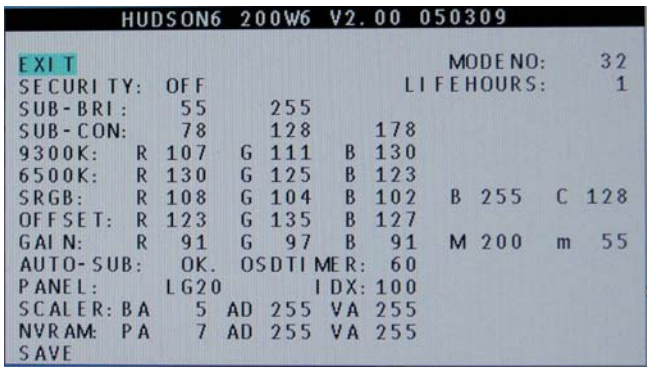


Fig. 4

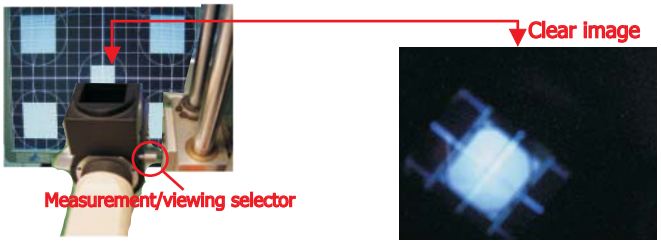


Fig.5

5.Display
Press " △ " or " ▽ " button to select . Change the value by " ◁ " or " ▷ " key until the X,Y co-ordinates as below

5.1 Auto color adjustment (B)
Apply a 1280x1024/60Hz signal with Black and white levels pattern, set brightness control at 100%, and contrast control at 50%. Adjust the R. G. B offset, and gain to calibrate the color smoothly and 64-gray level distinguishable. Check all factory pre-setting modes.

5.2 Adjustment of WHITE-D (B)
Apply a 1280*1024 / 60Hz signal with white pattern, set brightness control at 100%, and contrast control at 50%. Adjust the R, G, B Sub-Gain, for the screen center, the 1931 CIE chromaticity (X, Y) co-ordinates shall be;

	9300°K	6500°K
x (center)	0.283 +/- 0.008	0.313 +/- 0.008
y (center)	0.297 +/- 0.008	0.329 +/- 0.008

Use Minolta CA-110 for colour coordinates and luminance check. Luminance is > 200 Nits in the center of the screen when brightness at 100% and contrast set to 100%.

5.3 Adjustment of sRGB
Apply a 1280*1024 / 60Hz signal with white pattern, set brightness control at 100%, and contrast control at 50%. Adjust the R, G, B Sub-Gain, for the screen center, the 1931 CIE chromaticity (X, Y) co-ordinates shall be;

	sRGB
x(center)	0.313 +/- 0.008
y(center)	0.329 +/- 0.008
Ynits	180 ± 10

5.4 Factory Preset (B):
5.4.1
After finished all the adjustment, set:
OSD Default Setting:
Brightness: 100%
Contrast: 50%
Adjust size: Full screen
Language: English
Colour: 6500K for IMAGE MANAGEMENT
OSD position: middle of the LCD screen
Input Selection: Default as PC VGA (D-sub)
Volume: 50

5.4.2
In Factory mode default setting :
SECURITY : OFF
SUB-BRI : 55 255 (Fix)
SUB-CON : 78 128 178 (Fix)
PANEL: LG20 IDX 100

Mechanical Instructions

Front View

Fig.1

Back View

Fig.2

Step1. Remove the base as shown in Fig. 3-4
-Remove the screw as shown in Fig.3, then remove the hinge cover
-Remove the five screws as shown in Fig.4,then remove the base

Fig.3

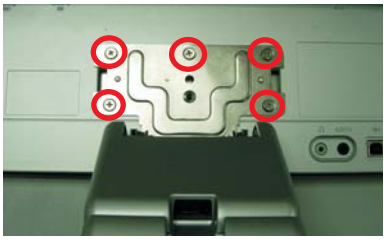


Fig.4

Step2. Remove the Front Bezel
-Remove the two screws as shown in Fig.5
-Use the thin " | " screw driver to open the clicks as shown in Fig.6-8.

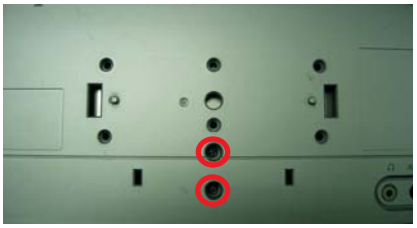


Fig.5

Fig.6

Fig.7

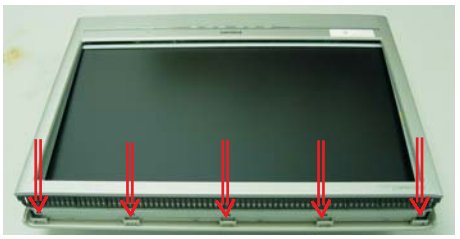


Fig.8

Step3.Remove the BacK cover
- Remove the eight threws as shown in Fig.9
- Disconnect 1904,1912,1911,1931 from control board as shown in Fig.9 & Fig.10
- Remove the two screws as shown in Fig.11
- Use the thin " | " type screw driver to open the clicks as shown in Fig.12

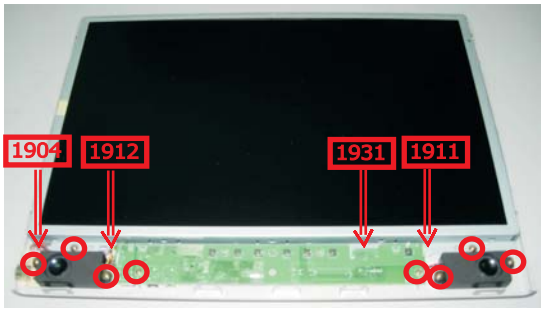


Fig.9

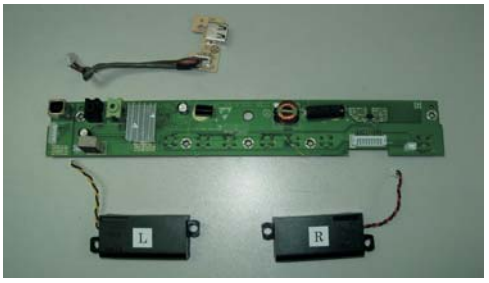


Fig.10

Fig.11

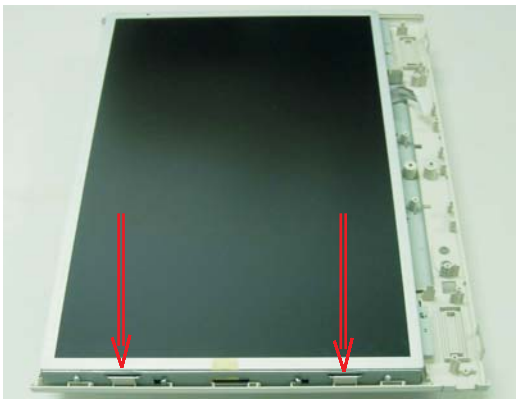


Fig.12

Step4. Remove the Matel frame board
- Remove the eight screws as shown in Fig.13
- Disconnect D-SUB & DVI hexagonal screws as shown in Fig.13
- Remove the matel frame board as shown in Fig.14

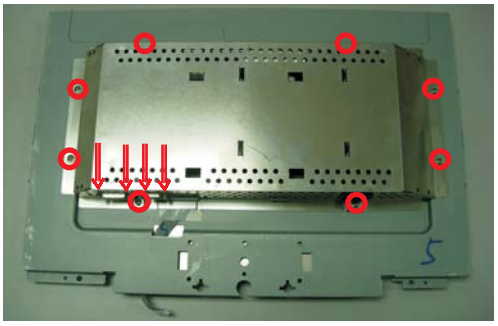


Fig.13

Fig.14

Step 5. Remove the sclar and power board.
- Remove the screws as shown in Fig.15
- Disconnect the 1501,1502,1402 and 4 backlight cables as shown in Fig.15
- Remove the scaler and power board as shown in Fig.16

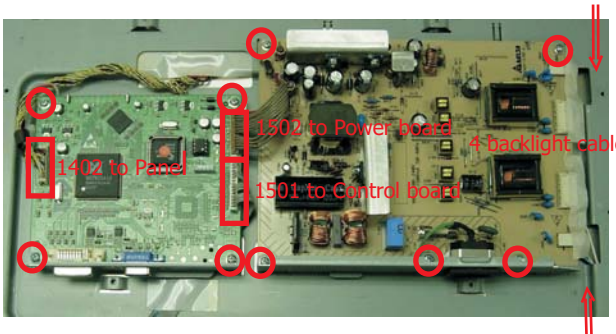


Fig.15

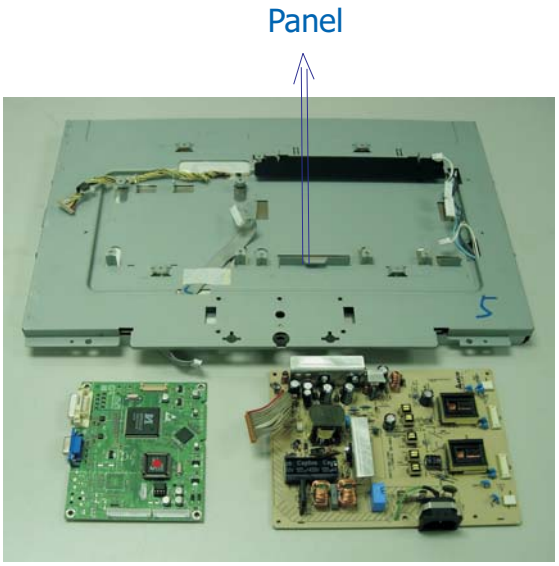
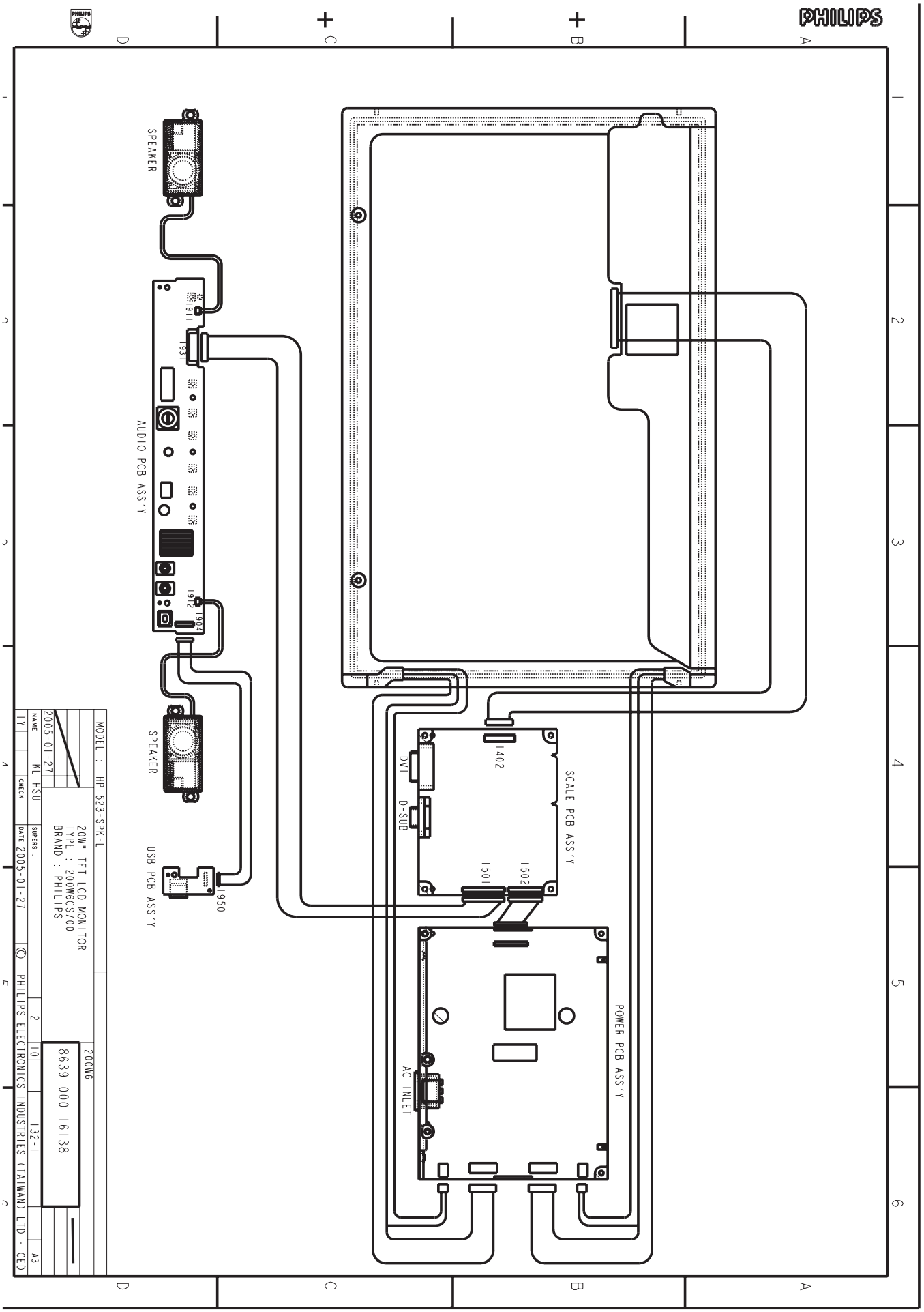


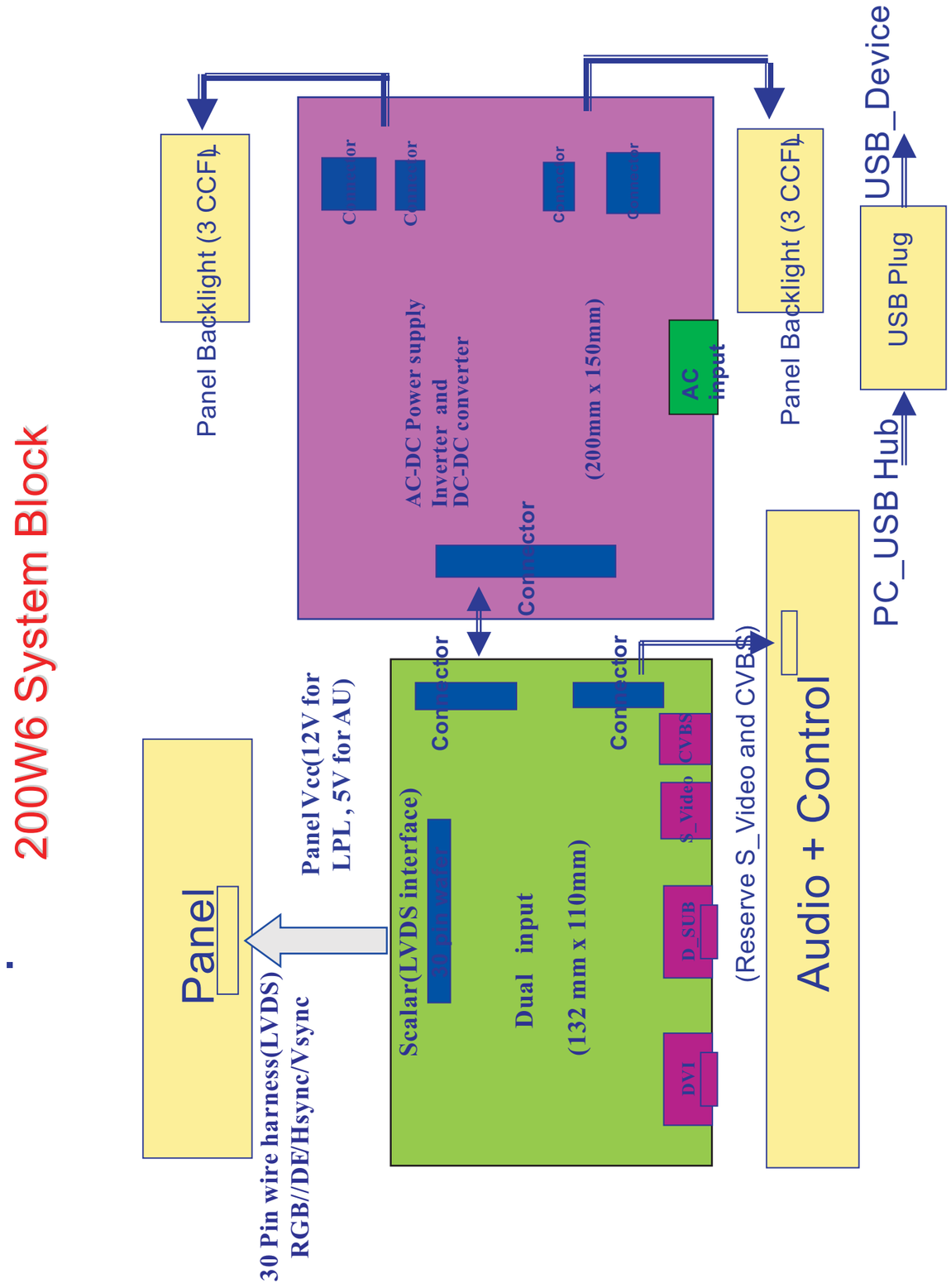
Fig.16

****
In warranty, it is not allowed to disassembly the LCD panel, even the backlight unit defect.
Out of warranty, the replacement of backlight units is a correct way when the defect is caused by backlight (CCFL, Lamp).
****

Wiring Diagram

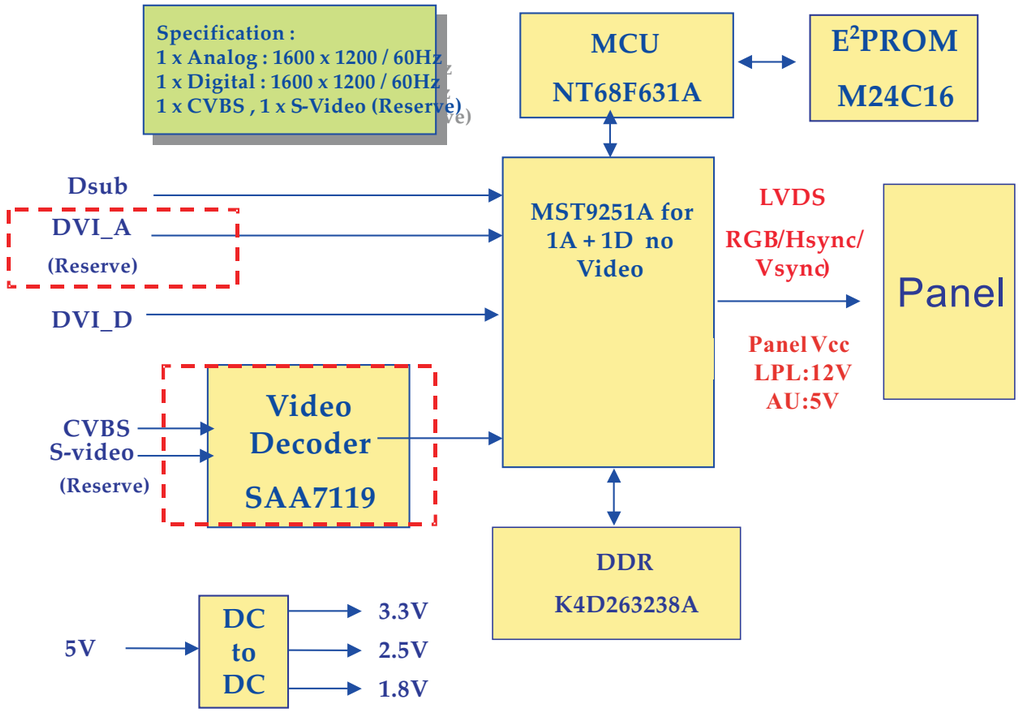


200W6 System Block

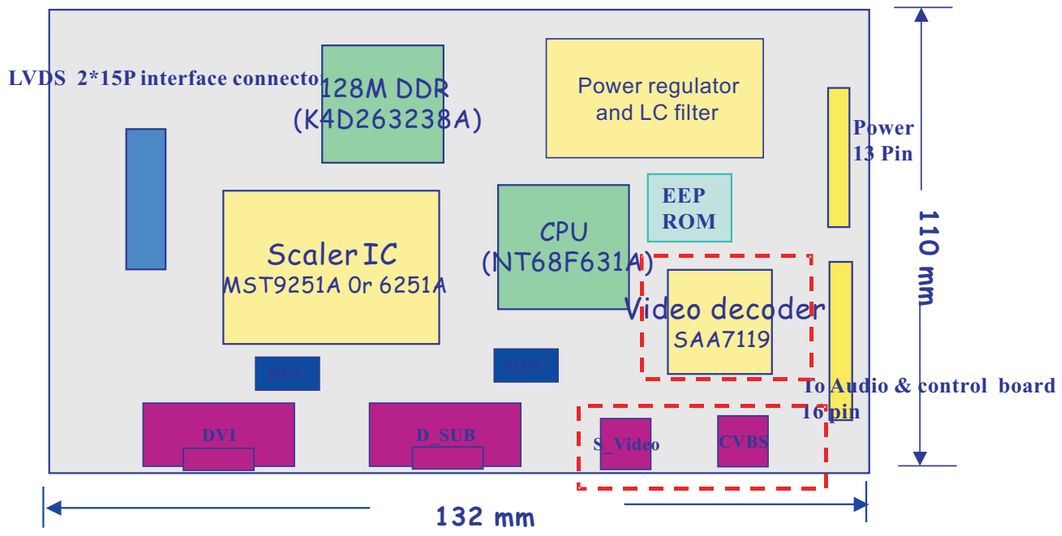


200W6 Scalar Board Block Diagram

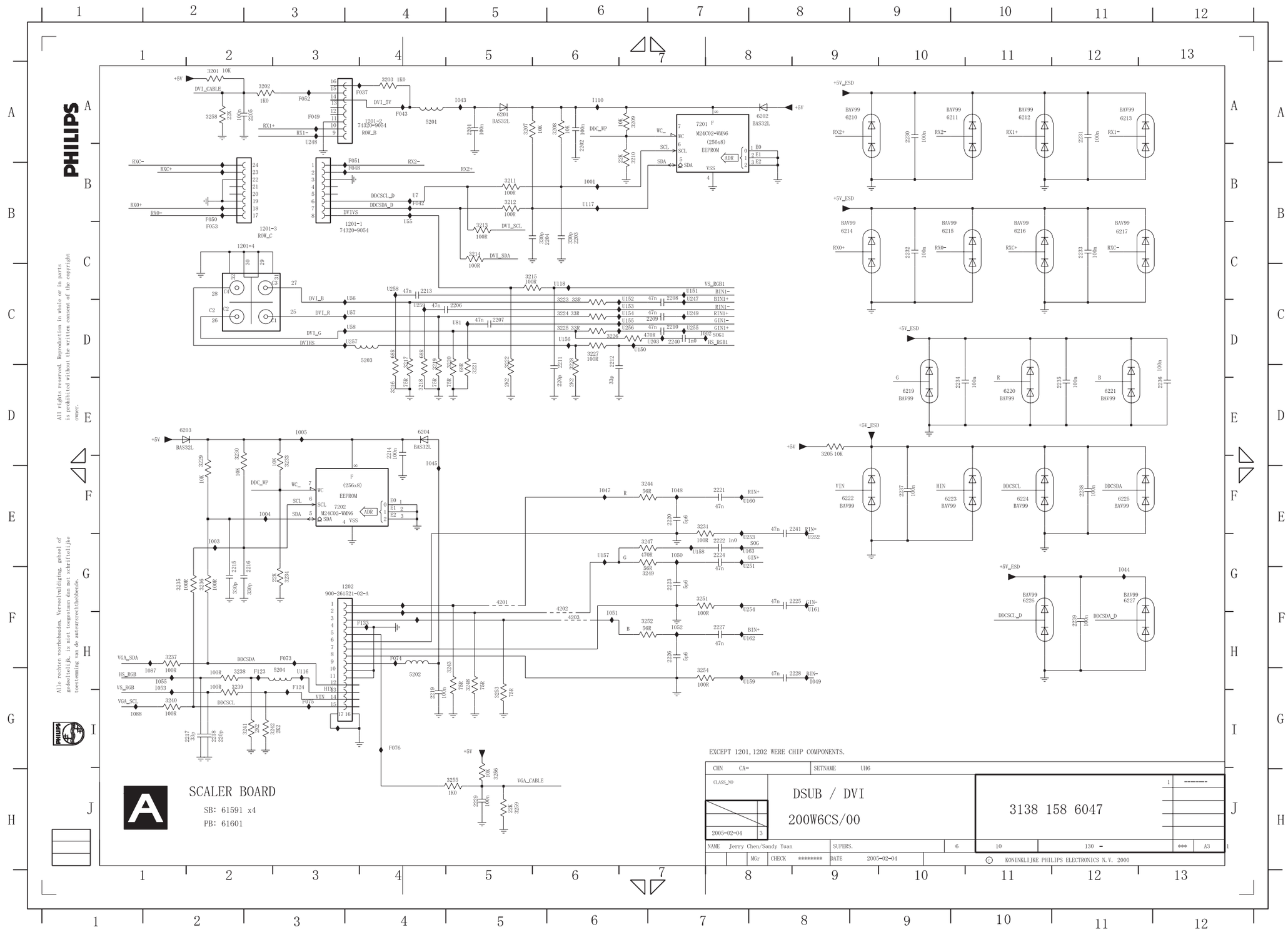
- To use M-star Scaler



200W6 Scalar Board Placement



Scaler Schematic Diagram - 1



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U56 C4
U57 C4
U58 C4
U81 C4
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1201-2 A4
1201-3 B3
1201-4 B3
1202 F4
2201 A5
2202 A6
2203 B6
2204 B6
2205 A3
2206 C5
2207 C5
2208 C6
2209 C6
2210 C6
2211 C6
2212 C6
2213 C4
2214 D4
2215 E2
2216 E3
2217 G2
2218 G2
2219 G4
2220 E7
2221 E7
2222 E7
2223 F7
2224 E7
2225 F8
2226 F7
2227 F7
2228 G8
2229 H5
2230 A9
2231 A11
2232 B9
2233 B11
2234 D10
2235 D11
2236 D12
2237 E9
2238 E11
2239 F11
2240 C7
2241 E8
3201 A2
3202 A3
3203 A4
3205 D8
3207 A5
3208 A6
3209 A6
3210 A6
3211 B5
3212 B5
3213 B5
3214 B5
3215 C5
3216 D4
3217 C4
3218 D4
3219 C4
3220 C5
3221 D5
3222 C5
3223 C6
3224 C6
3225 C6
3226 C6
3227 C6
3228 C6
3229 D2
3230 D2
3231 E7
3233 D3
3234 F3
3235 F2
3236 F2
3237 F2
3238 G2
3239 G2
3240 G2
3241 G3
3242 G3
3243 F5
3244 E7
3247 E7
3248 G5
3249 F7
3251 F7
3252 F7
3253 G5
3254 G7
3255 H5
3256 H5
3258 A2
3259 H5
4201 F5
4202 F6
4203 F6
5201 A4
5202 G4
5203 C4
5204 G3
6201 A5
6202 A8
6203 D2
6204 D4
6210 A8
6211 A9
6212 A10
6213 A11
6214 B8
6215 B9
6216 B10
6217 B11
6219 C9
6220 C10
6221 C11
6222 D9
6223 D10
6224 D10
6225 D11
6226 F10
6227 F11
7201 A7
7202 E3
F037 A4
F042 B4
F043 A4
F048 B4
F049 A3
F050 B2
F051 A4
F052 A3
F053 B2
F073 F3
F074 F4
F075 G3
F076 G4
F123 G3
F124 G3
F133 F4
1001 B6
1002 B6
1003 E2
1004 E3
1005 D3
1043 A5
1044 F11
1045 D4
1047 E6
1048 E7
1049 E6
1050 E7
1051 F6
1052 F7
1053 G2
1055 G2
1087 G2
1088 G1
1110 A6

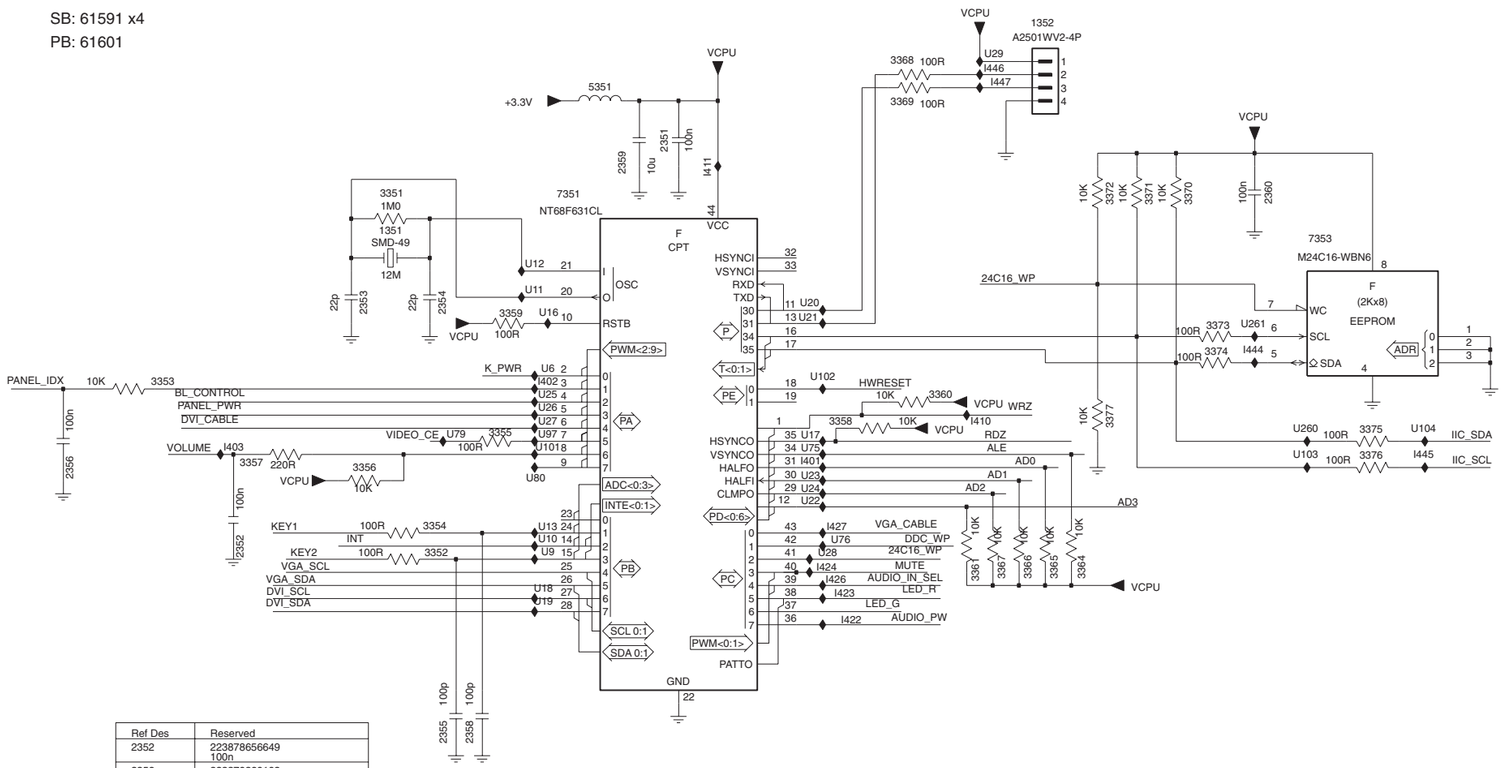
Ref_Des	Reserved
2206	223878615645 47n
2207	223878615645 47n
2208	223878615645 47n
2209	223878615645 47n
2210	223878615645 47n
2211	223886715221 220p
2212	223886715339 33p
2213	223878615645 47n
2240	223858615623 1n0
3215	232270260101 100R
3216	232270260689 68R
3217	232270467509 75R
3218	232270260689 68R
3219	232270467509 75R
3220	232270467509 75R
3221	232270260689 68R
3222	232270260222 2K2
3223	232270260339 33R
3224	232270260339 33R
3225	232270260339 33R
3226	232270260471 470R
3227	232270260101 100R
3228	232270260222 2K2
5203	242254945582

Scaler Schematic Diagram - 2

PHILIPS

SCALER BOARD

SB: 61591 x4
PB: 61601



Ref Des	Reserved
2352	223878656649 100n
3356	232270260103 10K
3377	232270260103 10K

EXCEPT 1352 WERE CHIP COMPONENTS.

U6 C4 I445 C8
U9 D4 I446 A7
U10 D4 I447 A7
U11 B4
U12 B4
U13 D4
U16 B4
U17 C6
U18 D4
U19 D4
U20 B6
U21 C6
U22 D6
U23 C6
U24 C6
U25 C4
U26 C4
U27 C4
U28 D6
U29 A7
U75 C6
U76 D6
U79 C4
U80 C4
1351 B3
1352 A7
2351 B5
2352 D2
2353 B3
2354 B4
2355 E4
2356 C2
2358 E4
2359 B5
2360 B8
3351 B3
3352 D4
3353 C2
3354 D4
3355 C4
3356 C3
3357 C3
3358 C6
3359 C4
3360 C6
3361 D7
3364 D7
3365 D7
3366 D7
3367 D7
3368 A6
3369 A6
3370 B8
3371 B7
3372 B7
3373 C8
3374 C8
3375 C9
3376 C9
3377 C7
5351 A4
7351 C5
7353 B8
I401 C6
I402 C4
I403 C4
I410 C6
I411 B5
I422 D6
I423 D6
I424 D6
I426 D6
I427 D6
I444 C8

CHN CA-	SETNAME UH6		
CLASS_NO	MCU (MST6251) 200W6CS/00	3138 158 6047	1 --------
2005-02-04 3			
NAME Jerry Chen/Sandy Yuan	SUPERS. 6	130 - 2	A3
CHECK	DATE 2005-02-04	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2004	

Scaler Schematic Diagram - 3

PHILIPS

7401
MST9251A

LCD MONITOR CONTROLLER

MCU | ANALOG | DVI | LVDS | GPO | MISC. | DRAM | VIDEO | DO NOT CONNECT

SCALER BOARD
SB: 61591 x4
PB: 61601

EXCEPT 6401,6402 WERE CHIP COMPONENTS.

CHN CA-	SETNAME UH6
CLASS_NO	SCALER BOARD 200W6CS/00
2005-04-02 3	3138 158 6047
NAME Jerry Chen/Sandy Yuan	SUPERS. 6 10 130 - 3 *** A3
MGr CHECK ********	DATE 2005-04-02

Ref Des	Reserved
4401	232270296001
4402	232270296001
5408	242254945582

U5 G2	F097 B11	2401 B2	I141 G10
U8 E1	F098 B11	2402 B2	I142 G10
U8 F1	F099 B11	2403 A4	I161 A3
U8 F2	F100 B11	2404 A4	
U14 F2	F101 B11	2405 A5	
U69 G5	F102 B11	2406 A5	
U73 F10	F103 B11	2407 A6	
1401 G10	F104 B11	2408 A6	
1402 A12	F105 B11	2409 A7	
		2410 A7	
		2411 A8	
		2412 A8	
		2413 D2	
		2414 C2	
		2415 G2	
		2416 C2	
		2417 C2	
		2419 C3	
		2420 F1	
		2421 F2	
		2422 F2	
		2423 G2	
		2424 G2	
		2425 G2	
		2426 G2	
		2427 F2	
		2428 F2	
		2429 G2	
		2430 G2	
		2431 G3	
		2432 H4	
		2433 H4	
		2434 H5	
		2435 H5	
		2436 G8	
		2437 G8	
		2438 G8	
		2439 G8	
		2440 G8	
		2441 G8	
		2442 G9	
		2443 F5	
		2444 F5	
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		5412 G5	
		5413 A11	
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		6402 E1	
		7401 D5	
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		F089 D11	
		F090 C11	
		F091 C11	
		F092 C11	
		F093 C11	
		F094 C11	
		F095 C11	
		F096 C11	

PHILIPS

SCALER BOARD

SB: 61591 x4

PB: 61601

128Mb GDDR SDRAM
[1M x 32bits x 4banks]

7301

K4D263238E-VC33

LD1117S25
7302

CHN	CA-
SETNAME	UH6
CLASS_NO	
	DDR
	200W6CS/00
2005-02-04	3
NAME	Jerry Chen/Sandy Yuan
SUPERS.	6
CHECK	
DATE	2005-02-04
	3138 158 6047
	1 --------
	130 - 4
	A3

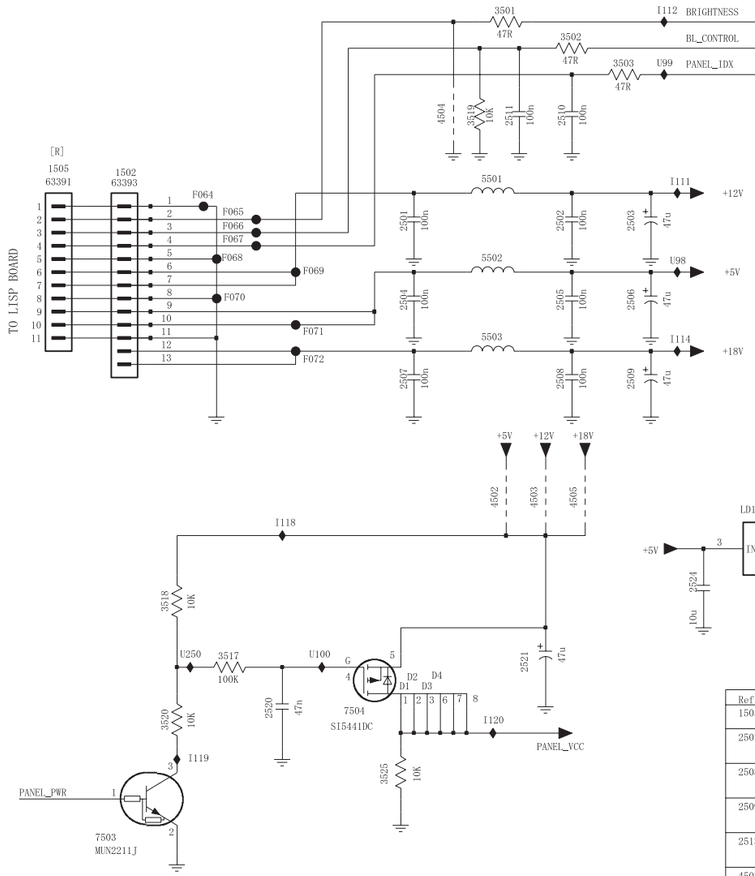
U74 D3
2302 A1
2303 A1
2304 A2
2305 A2
2306 A2
2307 A2
2308 A2
2309 A3
2310 A3
2311 C1
2312 C1
2313 C1
2314 C2
2315 C2
2316 C2
2317 C2
2318 C2
2319 C3
2320 C3
2321 B1
2322 B2
2323 B2
2324 B2
2325 B2
2326 B2
2327 B3
2328 B3
2329 A8
2330 A7
2332 D2
2333 E3
2334 D3
3301 A8
3302 A8
3303 C4
3304 C4
3305 D8
3306 C4
3307 C4
3308 C4
3309 C4
3310 C4
3311 C4
3312 C4
3313 C4
3314-1 B9
3315-1 B9
3316-1 C9
3317-1 D9
3318-1 D9
3319-1 E9
3320-1 A9
3321-1 A9
3322 C4
3323 C4
5301 A1
5302 C1
7301 C6
7302 D2

Scaler Schematic Diagram - 5

SCALER BOARD

SB: 61591 x4

PB: 61601



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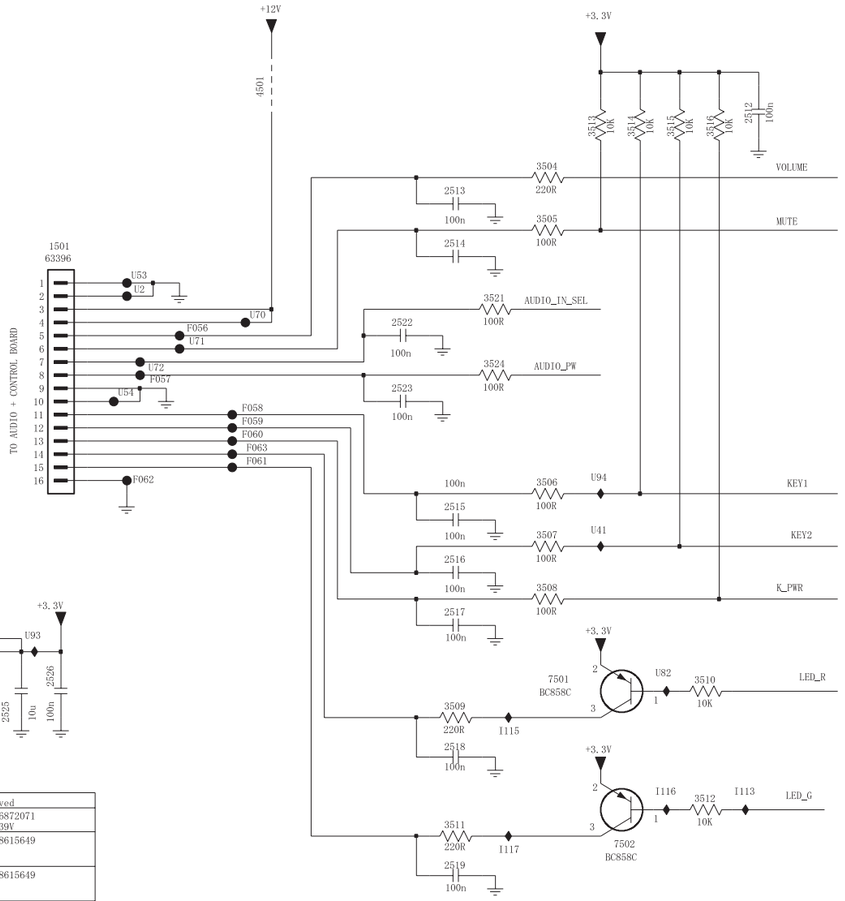
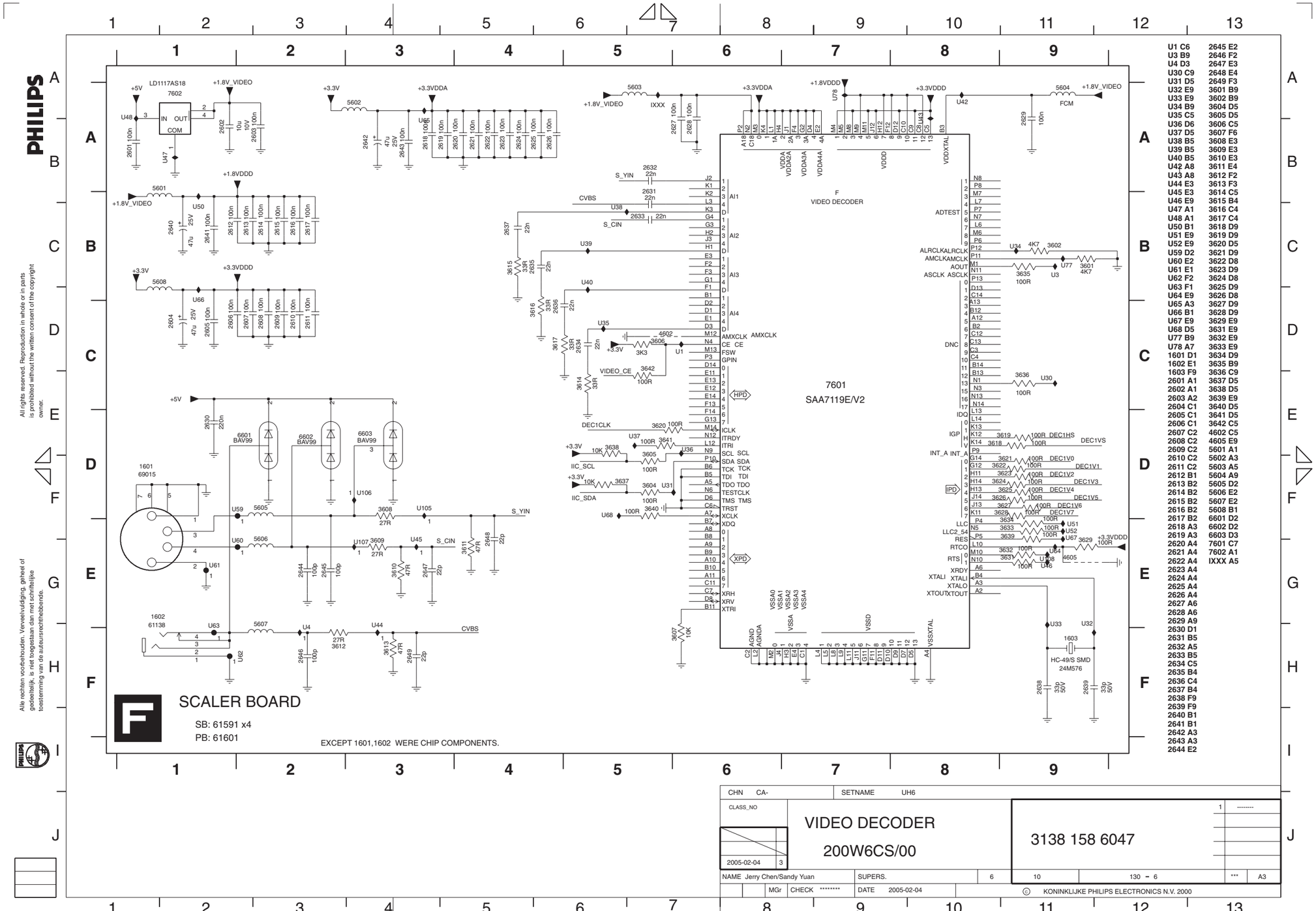
2508	223878615649
	100n
2509	202001293747
	47u
2513	223878615649
	100n
4502	232270296001
4504	232270296001
4505	232270296001



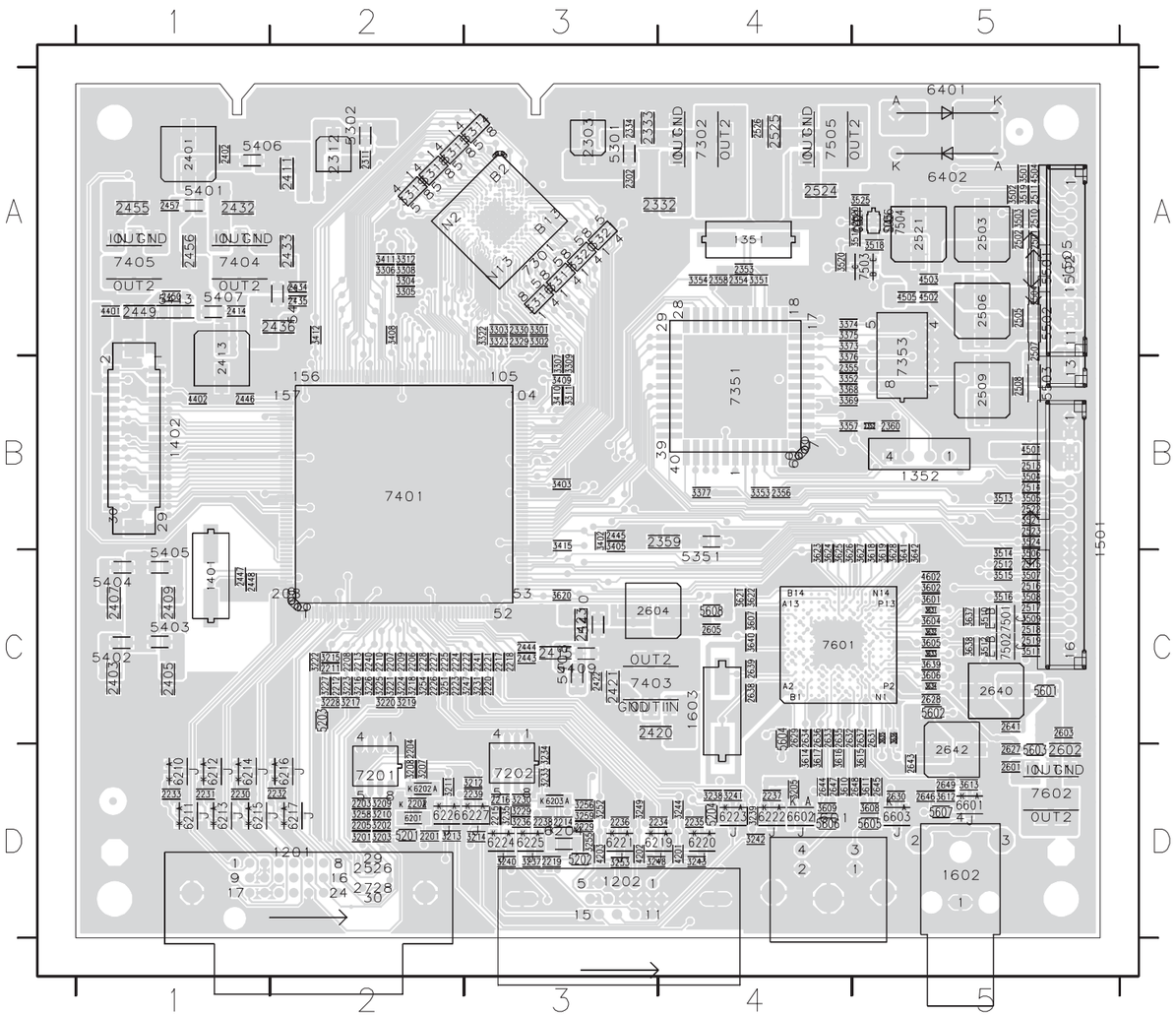
EXCEPT 1501, 1502, 1505 WERE CHIP COMPONENTS.

U2	B6	F059	C6
U41	C8	F060	C6
U53	B6	F061	C6
U54	C6	F062	C6
U70	B6	F063	C6
U71	B6	F064	B2
U72	C6	F065	B2
U82	D9	F066	B2
U93	D5	F067	B2
U94	C8	F068	C2
U98	C4	F069	C2
U99	A4	F070	C2
1501	B5	F071	C2
1502	B1	F072	C2
1505	B1	I111	B4
2501	B3	I112	A4
2502	B3	I113	E9
2503	B4	I114	C4
2504	C3	I115	E8
2505	C3	I116	E9
2506	C4	I117	E8
2507	C3	I118	D2
2508	C3	I119	E1
2509	C4	I120	E3
2510	B3	U100	E2
2511	B3		
2512	A9		
2513	B7		
2514	B7		
2515	C7		
2516	D7		
2517	D7		
2518	E7		
2519	E7		
2520	E2		
2521	E3		
2522	B7		
2523	C7		
2524	D4		
2525	D5		
2526	D5		
3501	A3		
3502	A4		
3503	B4		
3504	B8		
3505	B8		
3506	C8		
3507	D8		
3508	D8		
3509	D7		
3510	D9		
3511	E7		
3512	E9		
3513	A8		
3514	A8		
3515	A9		
3516	A9		
3517	E2		
3518	D1		
3519	B3		
3520	E1		
3521	B8		
3524	C8		
3525	E3		
4501	A6		
4502	D3		
4503	D3		
4504	B3		
4505	D4		
5501	B3		
5502	C3		
5503	C3		
7501	D8		
7502	E8		
7503	F1		
7504	E2		
7505	D4		
F056	B6		
F057	C6		
F058	C6		

CHN	CA-	SETNAME	UH6
CLASS_NO		I/O	3138 158 6047
2005-02-04	3	200W6CS/00	1 ———
NAME	Jerry Chen/Sandy Yuan	SUPERS.	6
	CHECK	DATE 2005-02-04	130 - A3 5



Scaler Board C.B.A - 1



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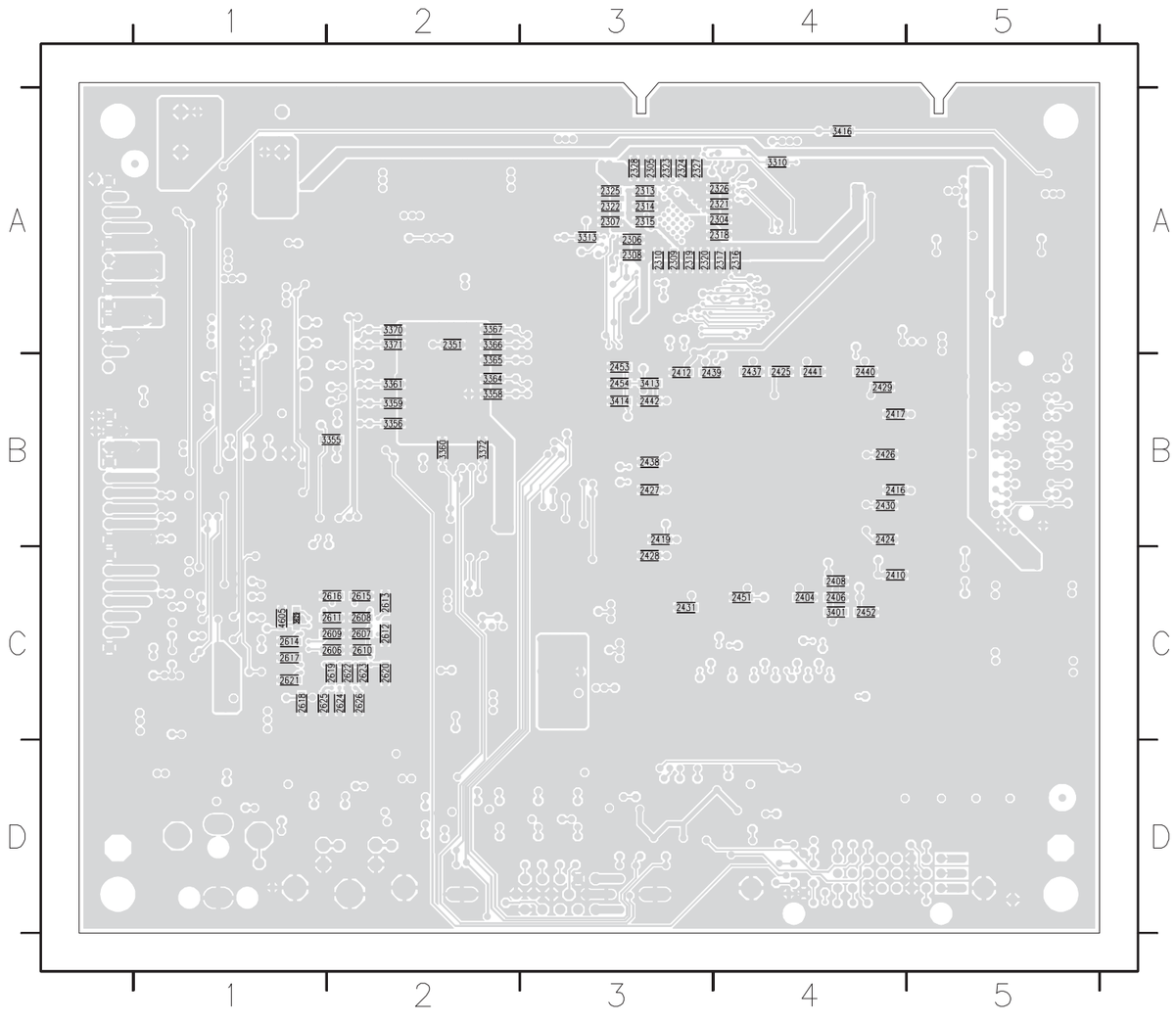
1202	D3	2401	A1	2635	C4	3303	A3	3608	D5	5604	C4				
1351	A4	2402	A1	2636	C4	3304	A2	3609	D4	5605	D5				
1352	B5	2403	C1	2637	C5	3305	A2	3610	D4	5606	D4				
1401	C2	2405	C1	2638	C4	3306	A2	3611	D5	5607	D5				
1402	B5	2407	C1	2639	C4	3307	B3	3612	D5	5608	C4				
1501	B5	2409	C1	2640	C5	3308	A3	3613	D5	6201	D2				
1502	A5	2411	A2	2641	C5	3309	B3	3614	D4	6202	D2				
1505	D4	2413	B1	2642	D5	3311	B3	3615	D4	6203	D3				
1602	C5	2415	C3	2643	D5	3312	A3	3616	D4	6204	D4				
1603	C4	2422	C3	2644	D5	3315	A3	3617	A3	6210	D1				
2201	D3	2421	C3	2645	D5	3316	A3	3618	A2	6211	D1				
2202	D3	2422	C3	2646	D5	3317	A3	3619	A2	6212	D1				
2203	D3	2423	C3	2647	D4	3318	A2	3620	C4	6213	D1				
2204	D3	2424	A1	2648	D5	3319	A2	3621	C4	6214	D1				
2205	D3	2433	A2	2649	D5	3320	A3	3622	C4	6215	D1				
2206	C3	2434	A2	3201	D2	3321	A3	3623	C4	6216	D2				
2207	C3	2435	A2	3202	D2	3322	A3	3624	C4	6217	D2				
2208	C3	2436	A2	3203	D2	3323	A3	3625	C4	6219	D4				
2209	C3	2443	C3	3204	D3	3351	A4	3626	C5	6220	D4				
2210	C3	2444	C3	3205	D2	3352	B4	3627	C5	6221	D3				
2211	C3	2445	B3	3207	D2	3353	B4	3628	C5	6222	D4				
2212	C3	2446	B1	3208	D2	3354	A4	3629	C5	6223	D4				
2213	C3	2447	C1	3209	D2	3357	B4	3631	C5	6224	D3				
2214	D3	2448	C1	3210	D2	3358	B4	3632	C5	6225	D3				
2215	D3	2449	A1	3211	D2	3359	B4	3633	C5	6226	D3				
2216	D3	2450	A1	3212	D3	3368	B4	3634	C5	6227	D2				
2217	C3	2455	A1	3213	D2	3369	B4	3635	C5	6227	D3				
2218	C3	2456	A1	3214	D3	3373	A4	3636	C5	6401	A5				
2219	D3	2457	A1	3215	C2	3374	A4	3637	C5	6402	A5				
2220	C3	2501	A5	3216	C2	3375	A4	3638	C5	6601	D5				
2221	C3	2502	A5	3217	C2	3376	B4	3639	C5	6602	D4				
2222	C3	2503	A5	3218	C2	3377	B4	3640	C4	6603	D5				
2223	C2	2504	A5	3219	C2	3402	B3	3641	C5	7201	D2				
2224	C2	2505	A5	3220	C2	3403	B3	3642	C5	7202	D3				
2225	C2	2506	A5	3221	C2	3405	B3	4201	D4	7301	A3				
2226	C2	2507	A5	3222	C2	3408	A2	4202	D3	7302	A4				
2227	C2	2508	B5	3223	C2	3409	B3	4203	D3	7351	B4				
2228	C2	2509	B5	3224	C2	3410	B3	4401	A1	7353	B5				
2229	D3	2510	A5	3225	C2	3411	A2	4402	B1	7401	B2				
2230	D1	2511	A5	3226	C2	3412	A2	4501	B5	7403	C3				
2231	D1	2512	C5	3227	C2	3415	B3	4502	A5	7404	A1				
2232	D2	2513	B5	3228	C2	5501	A5	4503	A5	7405	A1				
2233	D1	2514	B5	3229	D3	5502	A5	4504	A5	7501	C5				
2234	D4	2515	C5	3230	D3	5503	A5	4505	A5	7502	C5				
2235	D4	2516	C5	3231	D3	5504	B5	4506	A5	7503	A5				
2236	D3	2517	C5	3232	D3	5505	B5	5201	D3	7504	A5				
2237	D4	2518	C5	3233	D3	5506	C5	5202	D3	7505	A4				
2238	D3	2519	C5	3234	D3	5507	C5	5203	C3	7601	C4				
2239	D3	2520	A5	3235	D3	5508	C5	5204	D4	7602	D5				
2240	C3	2521	A5	3236	D3	5509	C5	5301	A3						
2241	C3	2522	B5	3237	D3	5510	C5	5302	A2						
2302	A3	2523	B5	3238	D4	5511	C5	5351	C4						
2303	A3	2524	A4	3240	D3	5512	C5	5401	A1						
2311	A2	2525	A4	3241	D4	5513	B5	5402	C1						
2312	A2	2526	A4	3242	D4	5514	C5	5403	C1						
2329	A3	2601	D5	3243	D4	5515	C5	5404	C1						
2330	A3	2602	D5	3244	D4	5516	C5	5405	C1						
2332	A4	2603	C5	3247	C3	5517	A5	5406	A1						
2333	A3	2604	C3	3248	D3	5518	A5	5407	A1						
2334	A3	2605	C4	3249	D3	5519	A5	5408	C3						
2352	B5	2627	D5	3251	C2	3520	A4	5409	C3						
2353	A4	2628	C5	3252	D3	3521	B5	5410	C3						
2354	A4	2629	C4	3253	D3	3524	B5	5412	A2						
2355	B4	2630	D5	3254	C2	3525	A5	5413	A1						
2356	B4	2631	C5	3255	D3	3601	C5	5501	A5						
2358	A4	2632	C4	3256	D3	3602	C5	5502	A5						
2359	B4	2633	C4	3301	A3	3606	C5	5602	C5						

CN: CA-		LCD UH6	
CLASS NO. 3XX000	Scaler Board UH6 200W6	3138 103 6159	1 2005-01-21
2005-01-21			
NAME Jerry Chen/Sandy	SUPERS	2	10 / 132 - 1 / A3
CHECK	DATE 2005-01-21	© Philips Electronics N.V.	

Scaler Board C.B.A - 2



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2305	A3	2626	C2
2306	A3	3310	A4
2307	A3	3313	A3
2308	A3	3355	B2
2309	A3	3356	B2
2310	A3	3358	B2
2313	A3	3359	B2
2314	A3	3360	B2
2315	A3	3361	B2
2316	A4	3364	B2
2317	A4	3365	B2
2318	A4	3366	A2
2319	A3	3367	A2
2320	A3	3370	A2
2321	A4	3371	A2
2322	A3	3372	B2
2323	A3	3401	C4
2324	A3	3413	B3
2325	A3	3414	B3
2326	A4	3416	A4
2327	A3	3629	C1
2328	A3	4605	C1
2351	A2		
2404	C4		
2406	C4		
2408	C4		
2410	B3		
2412	B4		
2416	B4		
2417	B3		
2419	B3		
2424	B4		
2425	B4		
2426	B4		
2427	B4		
2428	C3		
2429	B4		
2430	B4		
2431	C3		
2437	B4		
2438	B4		
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2440	B4		
2441	B4		
2442	C3		
2451	C4		
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2453	B4		
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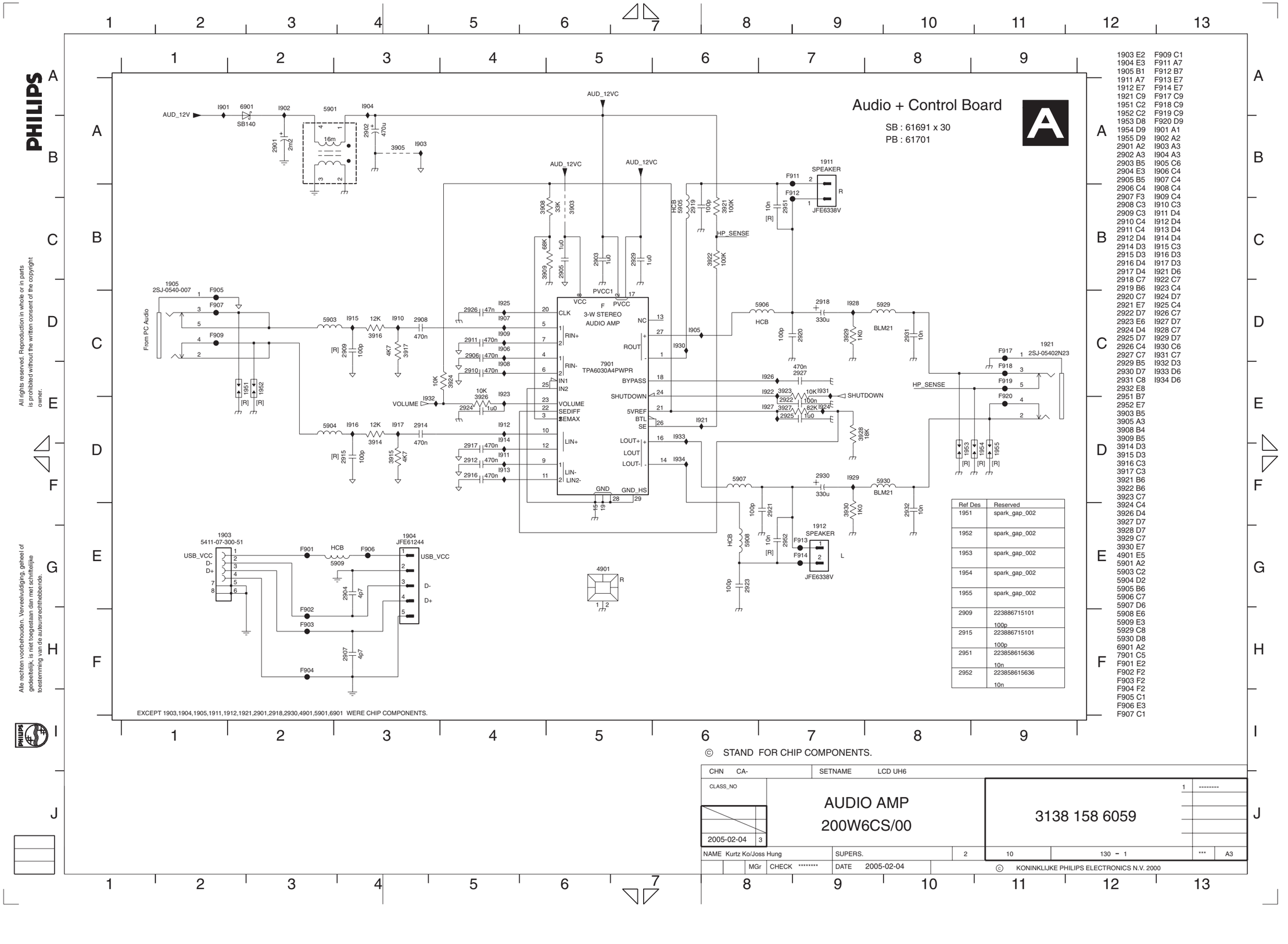
2608	C3		
2609	C3		
2610	C3		
2611	C3		
2612	C3		
2613	C2		
2614	C1		
2615	C2		
2616	C2		
2617	C1		
2618	C1		
2619	C2		
2620	C2		
2621	C1		
2622	C2		
2623	C2		
2624	C2		

CN: CA-		LCD UH6	
CLASS NO. 3XX000	Scaler Board UH6 200W6	3138 103 6159	1 2005-01-21
2005-01-21			
NAME Jerry Chen/Sandy	SUPERS 2	10 132 - 2	A3
CHECK	DATE 2005-01-21	© Philips Electronics N.V.	

AUDIO+CONTROL Schematic Diagram & C.B.A



Ref Des	Reserved
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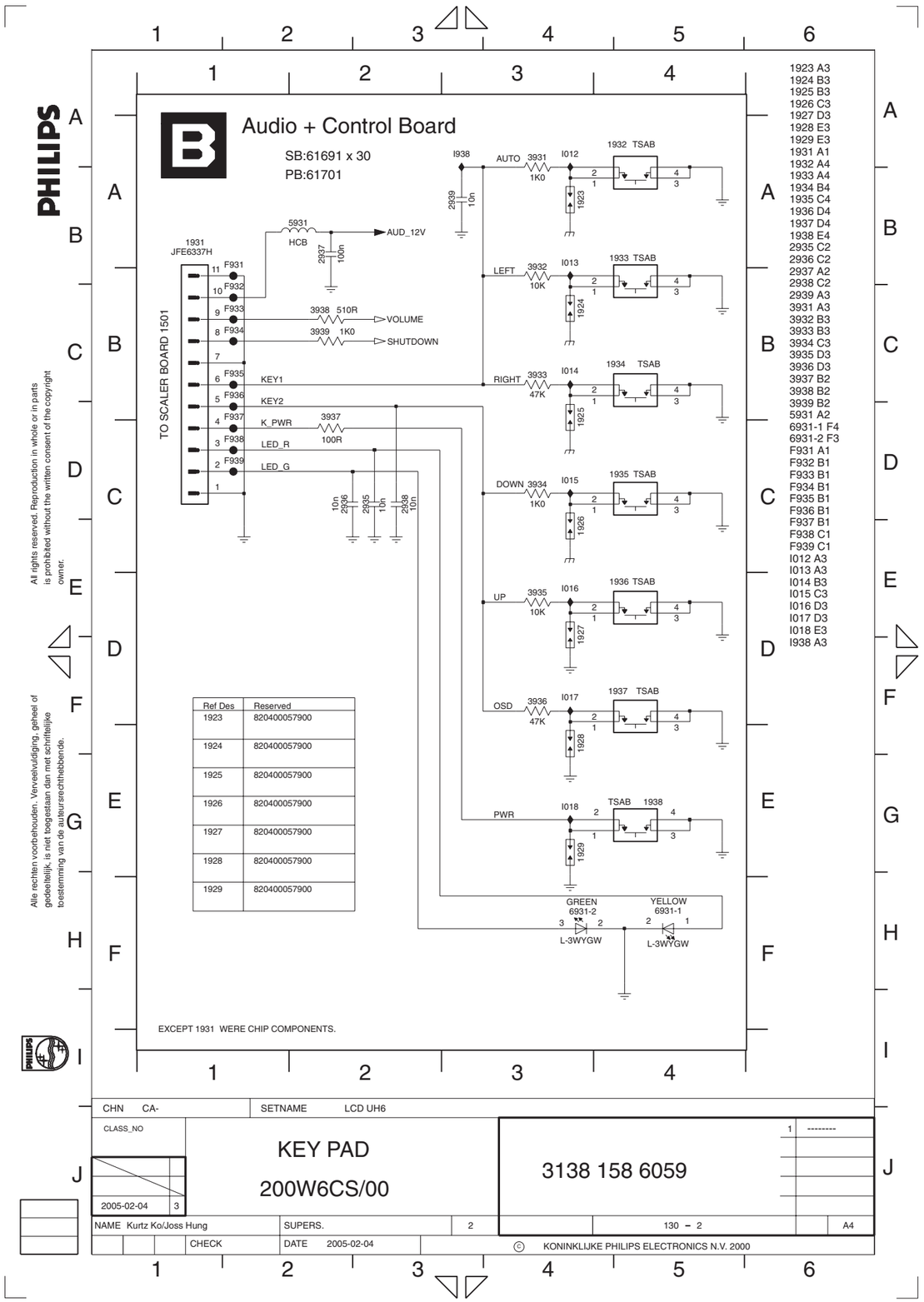
1952	spark_gap_002
1953	spark_gap_002
1954	spark_gap_002
1955	spark_gap_002
2909	223886715101 100p
2915	223886715101 100p
2951	223858615636 10n
2952	223858615636 10n

1903 E2 F909 C1
1904 E3 F911 A7
1905 B1 F912 B7
1911 A7 F913 E7
1912 E7 F914 E7
1921 C9 F917 C9
1951 C2 F918 C9
1952 C2 F919 C9
1953 D8 F920 D9
1954 D9 I901 A1
1955 D9 I902 A2
2901 A2 I903 A3
2902 A3 I904 A3
2903 B5 I905 C6
2904 E3 I906 C4
2905 B5 I907 C4
2906 C4 I908 C4
2907 F3 I909 C4
2908 C3 I910 C3
2909 C3 I911 D4
2910 C4 I912 D4
2911 C4 I913 D4
2912 D4 I914 D4
2914 D3 I915 C3
2915 D3 I916 D3
2916 D4 I917 D3
2917 D4 I921 D6
2918 C7 I922 C7
2919 B6 I923 C4
2920 C7 I924 D7
2921 E7 I925 C4
2922 D7 I926 C7
2923 E6 I927 D7
2924 D4 I928 C7
2925 D7 I929 D7
2926 C4 I930 C6
2927 C7 I931 C7
2929 B5 I932 D3
2930 D7 I933 D6
2931 C8 I934 D6
2932 E8
2951 B7
2952 E7
3903 B5
3905 A3
3908 B4
3909 B5
3914 D3
3915 D3
3916 C3
3917 C3
3921 B6
3922 B6
3923 C7
3924 C4
3926 D4
3927 D7
3928 D7
3929 C7
3930 E7
4901 E5
5901 A2
5903 C2
5904 D2
5905 B6
5906 C7
5907 D6
5908 E6
5909 E3
5929 C8
5930 D8
6901 A2
7901 C5
F901 E2
F902 F2
F903 F2
F904 F2
F905 C1
F906 E3
F907 C1

© STAND FOR CHIP COMPONENTS.

CHN CA-	SETNAME LCD UH6				
CLASS_NO	AUDIO AMP 200W6CS/00	3138 158 6059			
2005-02-04 3			1 --------		
NAME Kurtz Ko/Joss Hung	SUPERS.	2	10	130 - 1	*** A3
MGr CHECK ********	DATE 2005-02-04	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000			



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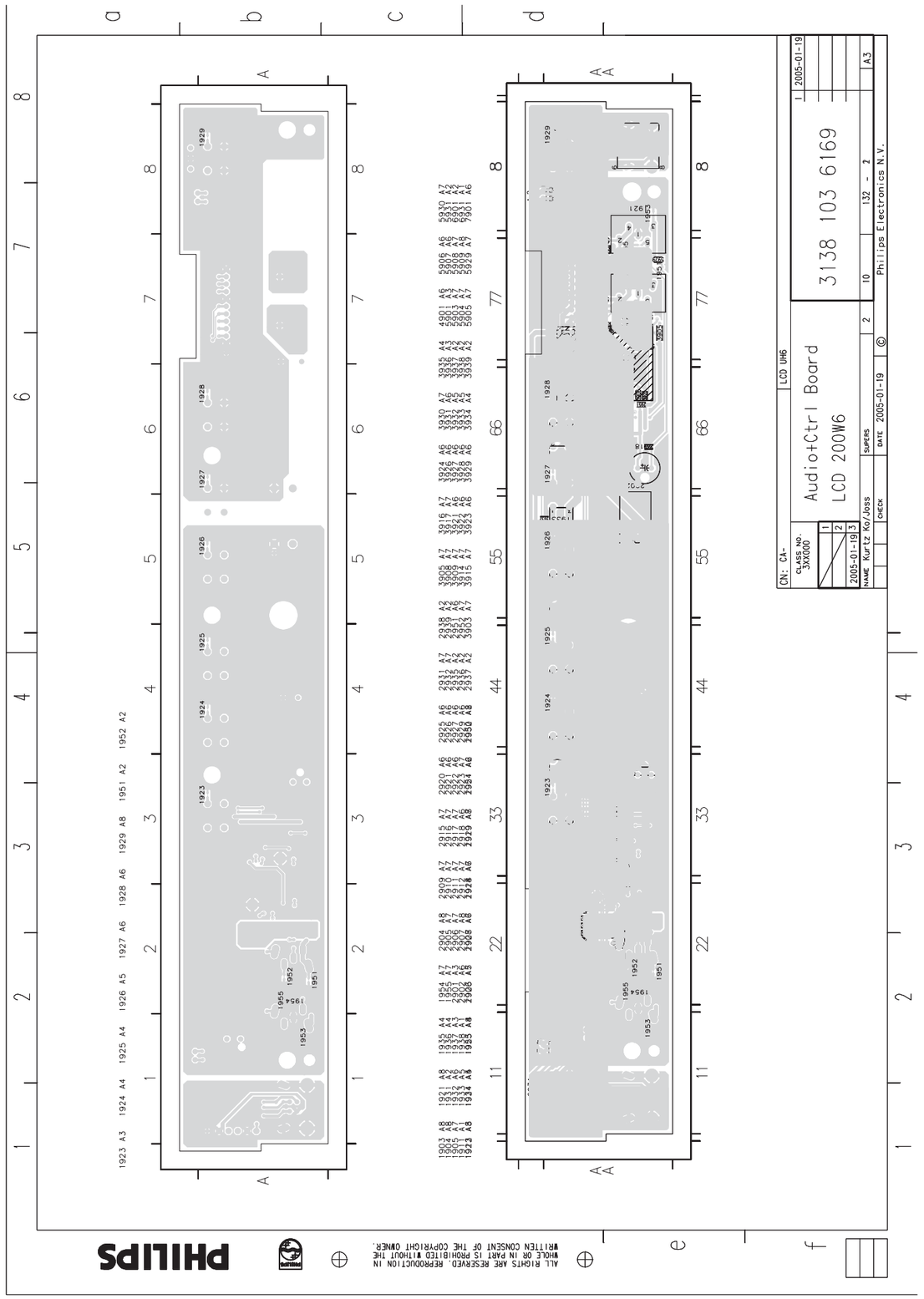
1925	820400057900
1926	820400057900
1927	820400057900
1928	820400057900
1929	820400057900

CHN CA-	SETNAME LCD UH6		
CLASS_NO	KEY PAD 200W6CS/00	3138 158 6059	1 --------
2005-02-04 3	NAME Kurtz Ko/Joss Hung	SUPERS. 2	130 - 2 A4
	CHECK	DATE 2005-02-04	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000



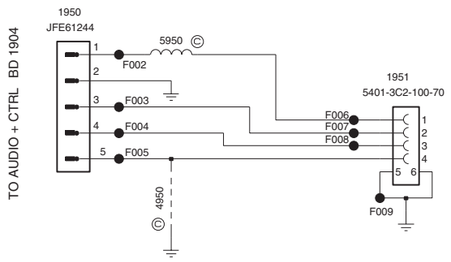
USB Schematic Diagram & C.B.A

PHILIPS

1901 B1
1902 C3
4901 C2
5901 B2
F002 B1
F003 C1
F004 C1
F005 C1
F006 C3
F007 C3
F008 C3
F009 C3

USB Board

SB: 61761 x 30
PB: 61771

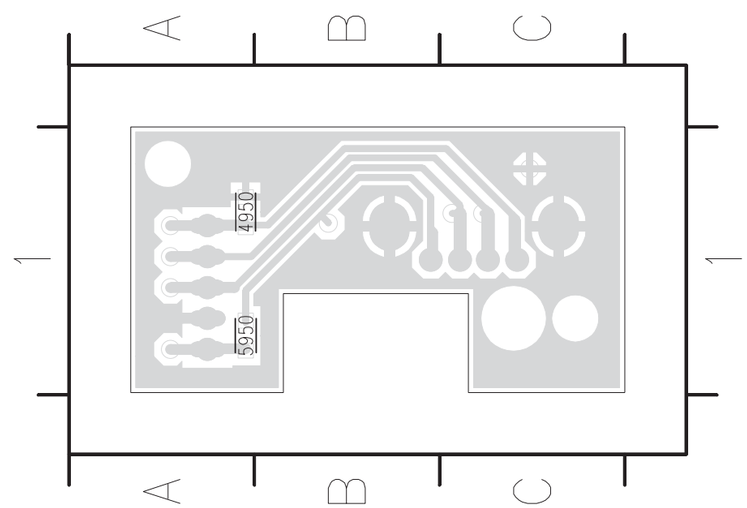


© STAND FOR CHIP COMPONENTS.

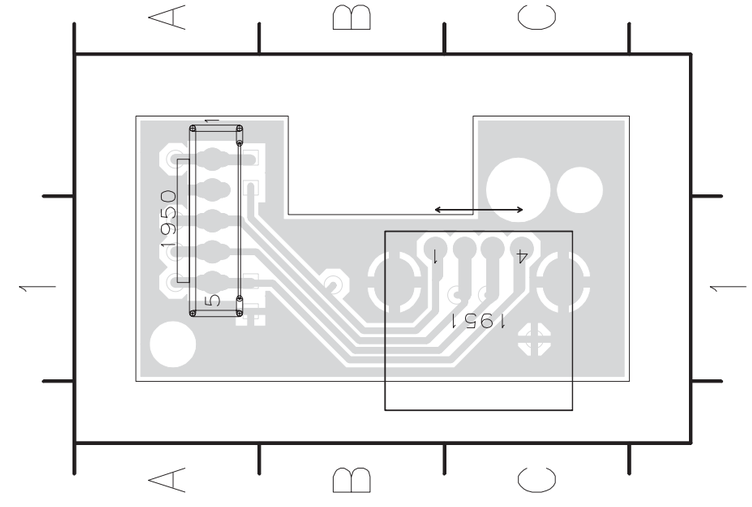
CHN CA-	SETNAME LCD UH6		
CLASS_NO	USB BOARD 200W6CS/00	3138 158 6183	1 --------
2005-02-04 3			
NAME KURTZ KO / JOSS HUNG	SUPERS. 1	130 - 1	A4
CHECK	DATE 2005-02-04	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000	

PHILIPS

4950 A1 5950 A1

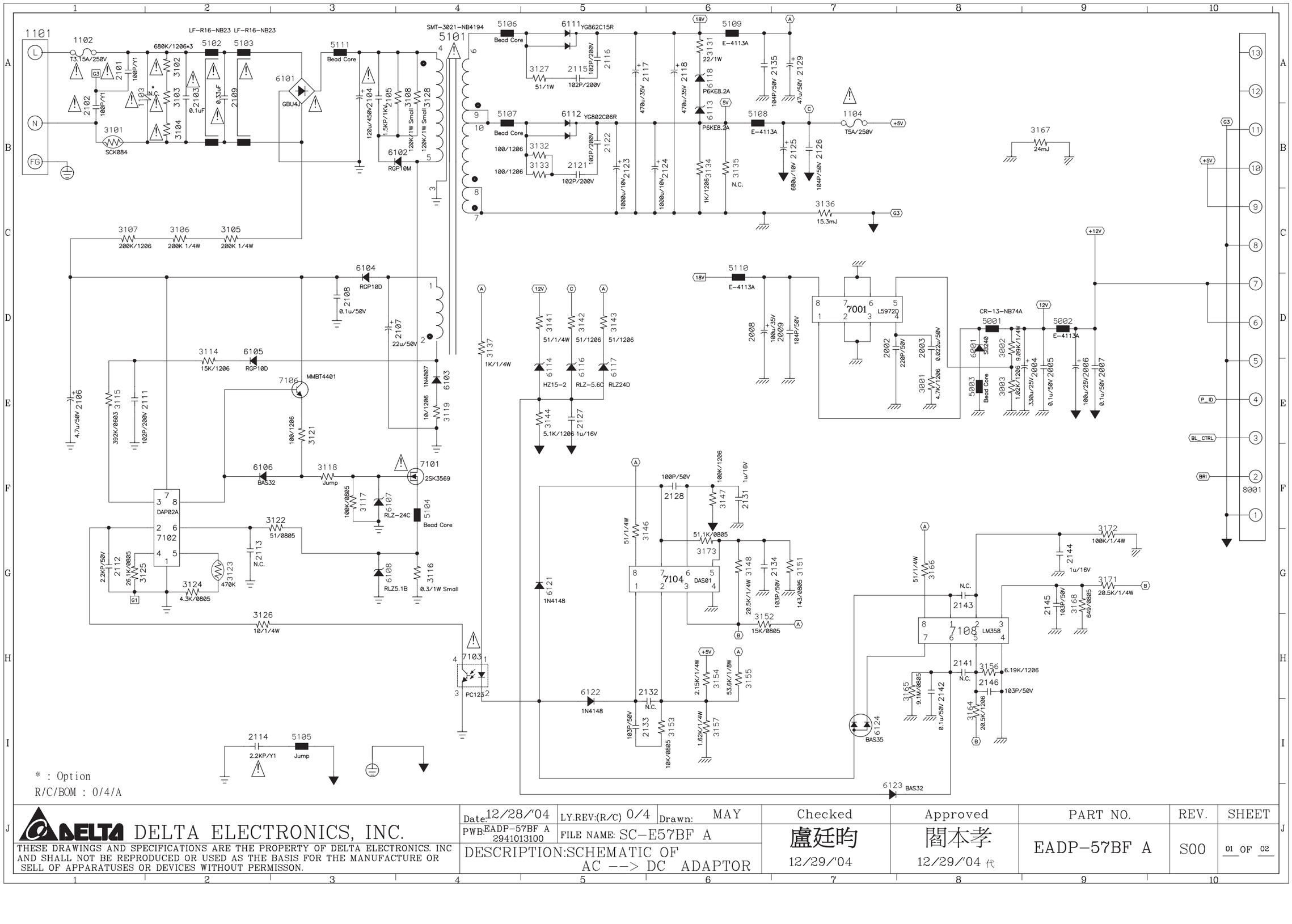


1950 A1 1951 C1



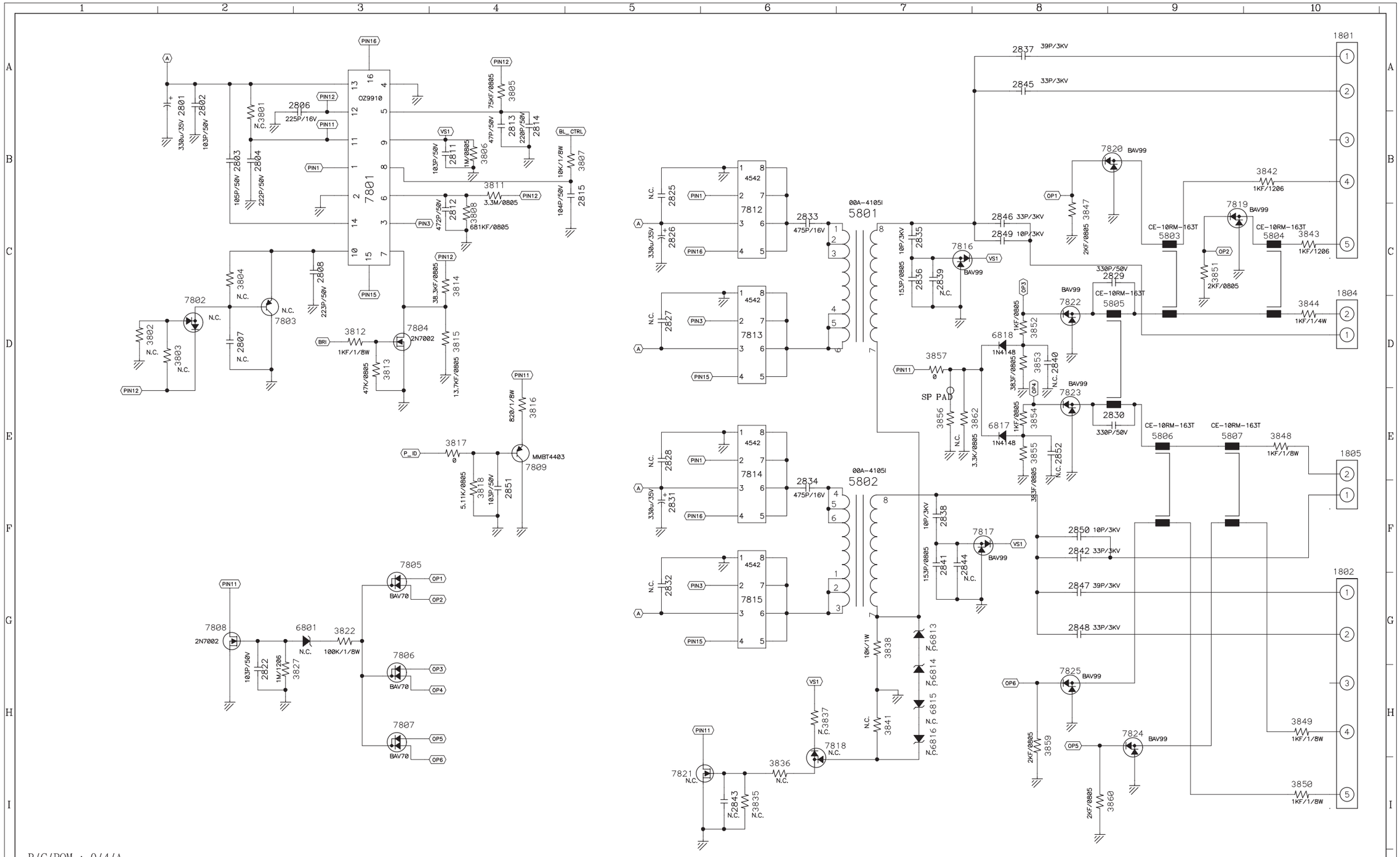
CN: CA-	LCD UH6		
CLASS NO. 3XX000	USB Plug Board UH6 200W6	3138 103 6176	1 2005-01-11
2005-01-11 3			
NAME Kurtz Ko/Joss	SUPERS 2	10 132 - 1	A4
CHECK	DATE 2005-01-11	© Philips Electronics N.V.	

Power Schematic Diagram - 1



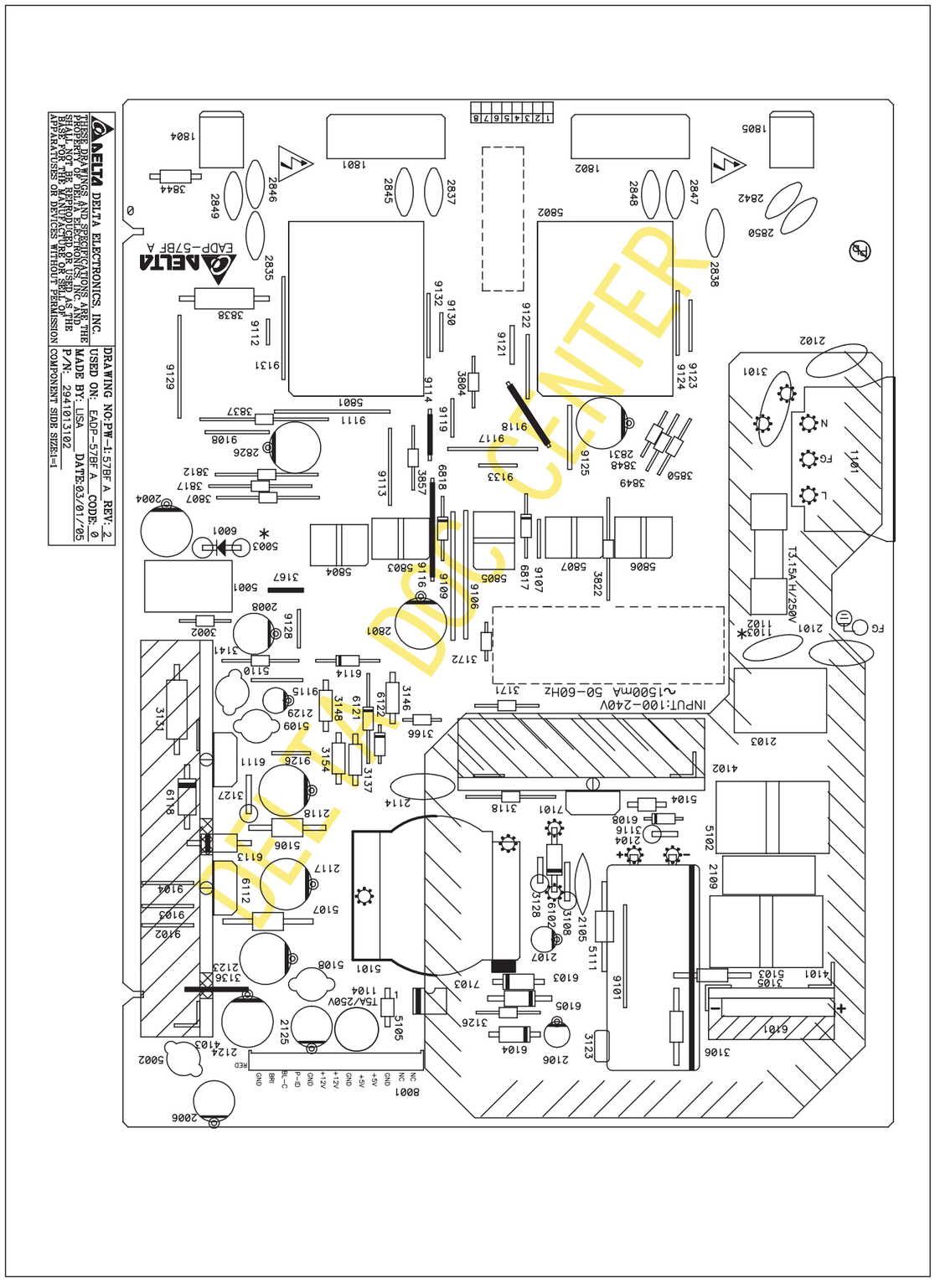
DELTA ELECTRONICS, INC.	Date: 12/28/'04	LY.REV:(R/C) 0/4	Drawn: MAY	Checked	Approved	PART NO.	REV. / SHEET
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS. INC AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSON.	PWB: EADP-57BF A 2941013100	FILE NAME: SC-E57BF A		盧廷昀 12/29/'04	閻本孝 12/29/'04 代	EADP-57BF A	S00 / 01 OF 02
	DESCRIPTION: SCHEMATIC OF AC --> DC ADAPTOR						

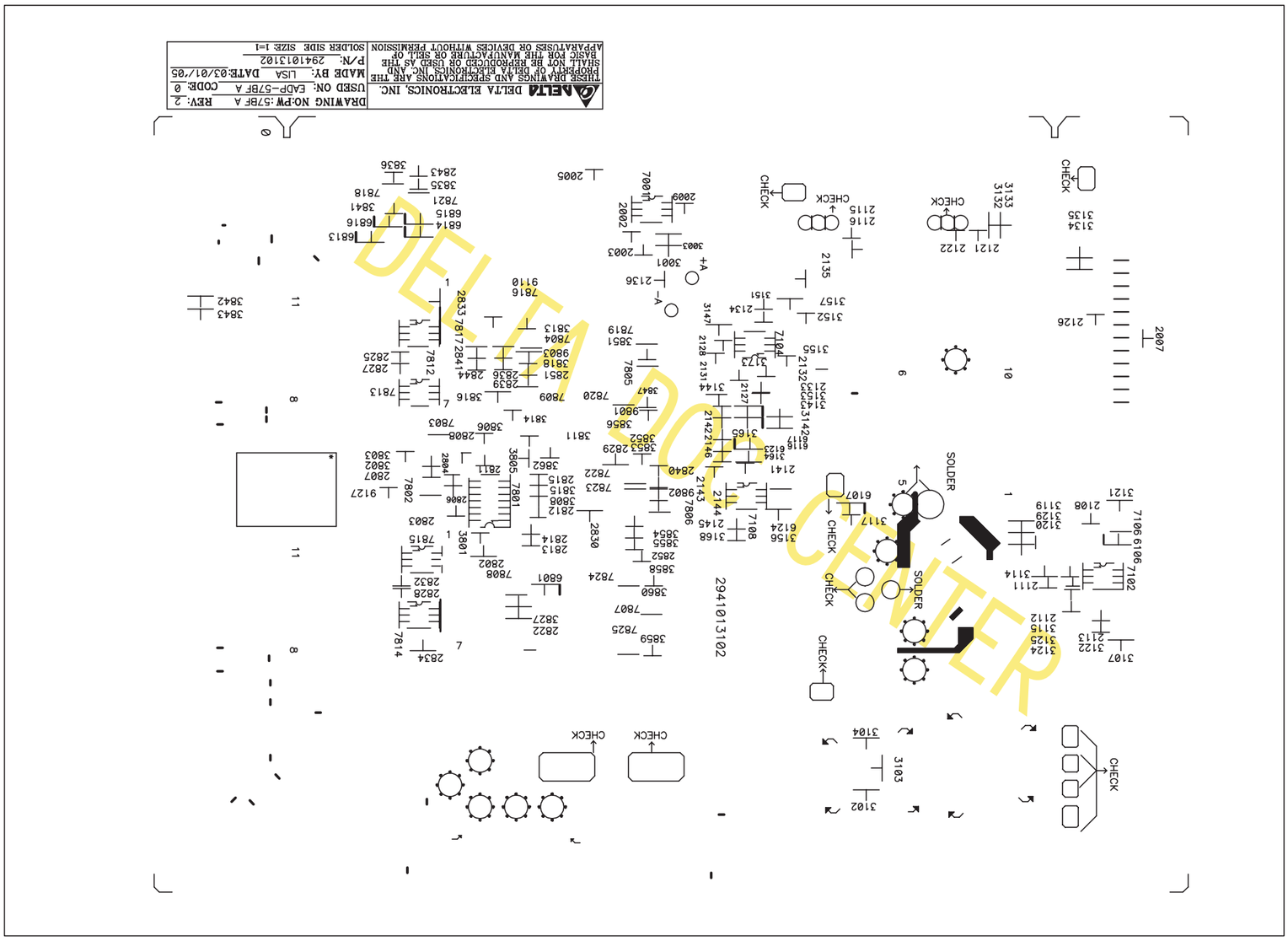
Power Schematic Diagram - 2



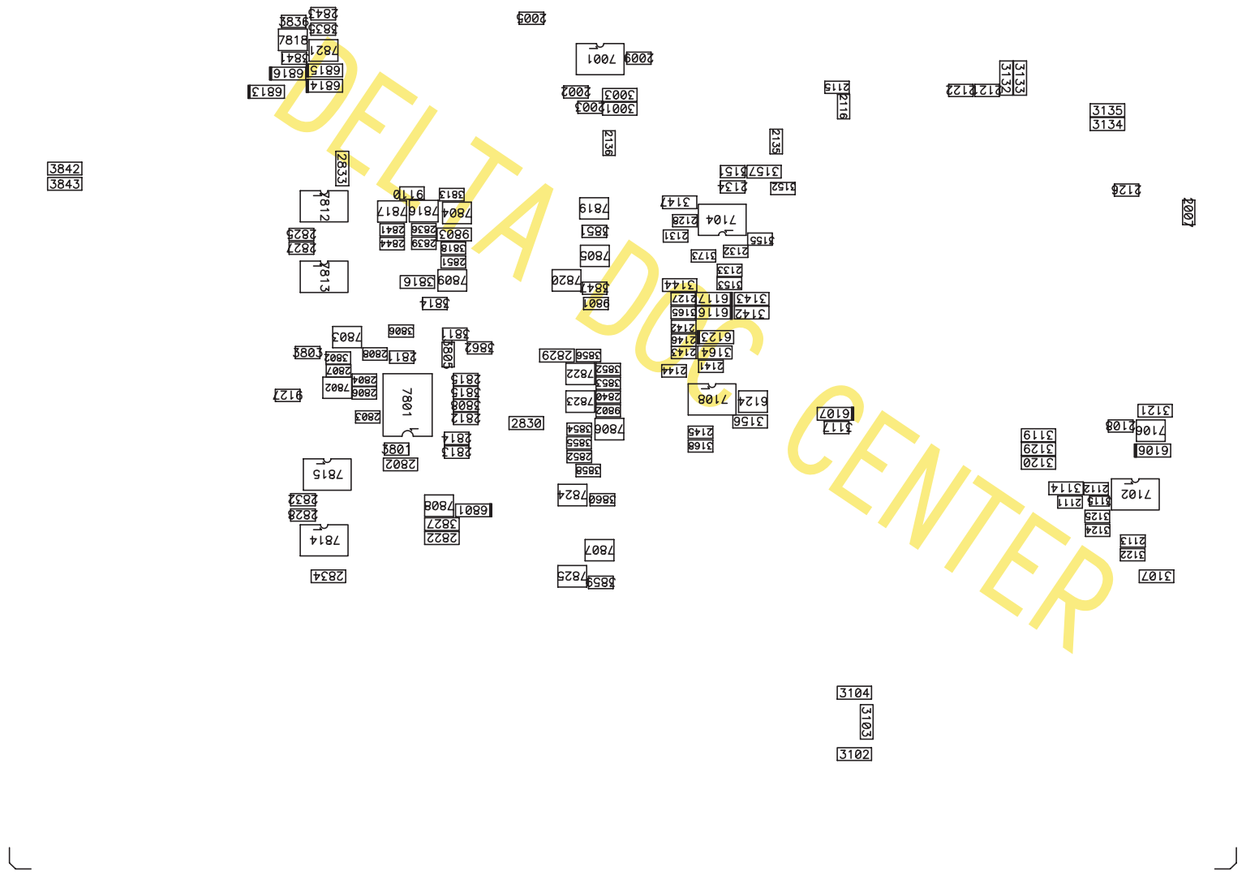
R/C/BOM : 0/4/A

DELTA ELECTRONICS, INC.	Date: 12/28/'04	LY.REV:(R/C) 0/4	Drawn: MAY	Checked	Approved	PART NO.	REV.	SHEET
	PWB: EADP-57BF A 2941013100	FILE NAME: SC-E57BF A		盧廷昀 12/29/'04	閻本孝 12/29/'04 代	EADP-57BF A	S00	02 OF 02
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS. INC AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSON.	DESCRIPTION: SCHEMATIC OF AC --> DC ADAPTOR							

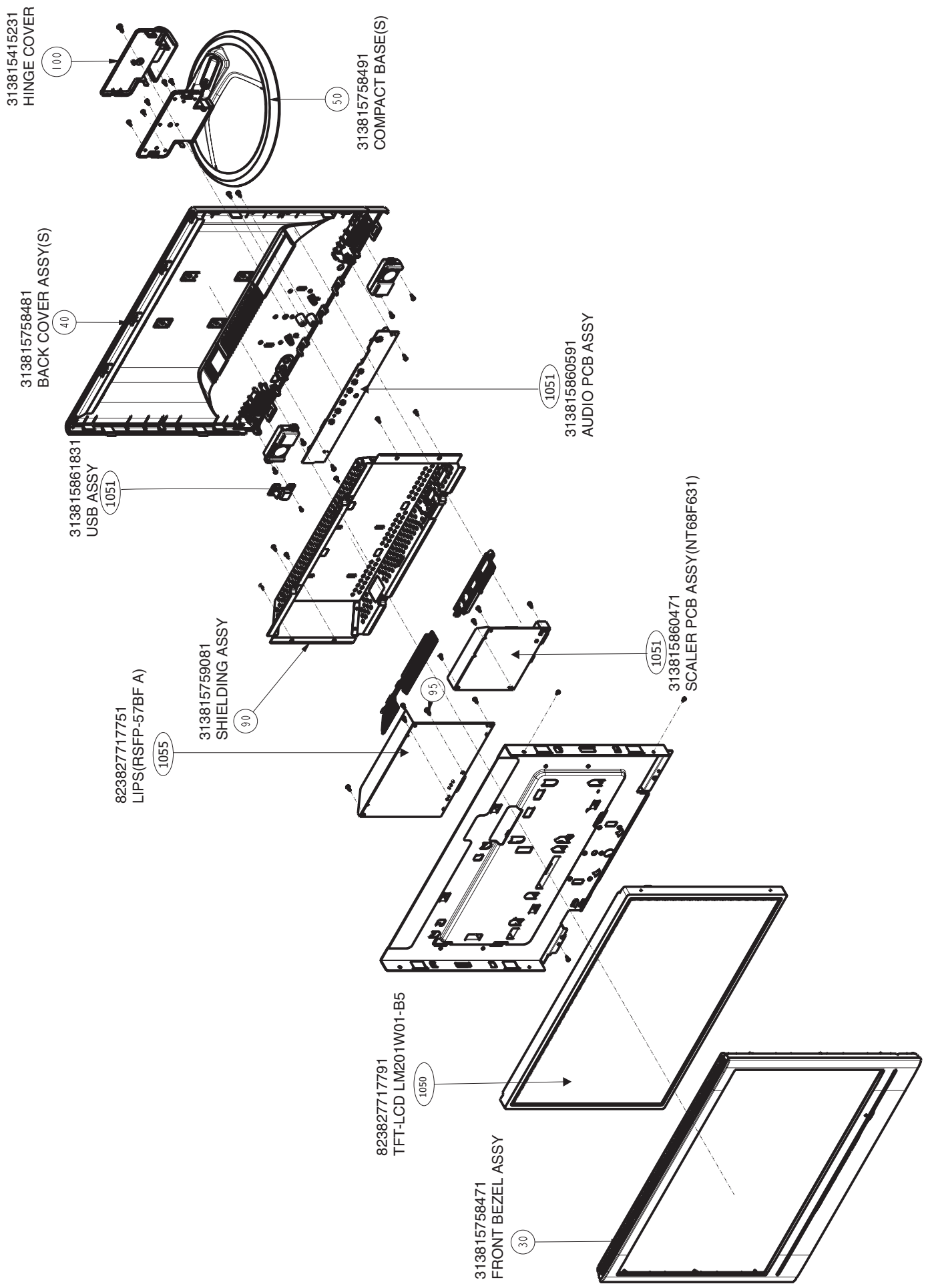

EADP-57BF A
INPUT:100-240V
2500mA 50-60Hz
TSA/250V
T3.15A H/250V
FG
N
FG
L
DELTA ELECTRONICS, INC.
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUSES OR DEVICES WITHOUT PERMISSION
DRAWING NO:PW-1:57BF A REV: 2
USED ON: EADP-57BF A CODE: 0
MADE BY: LISA DATE:03/01/'05
P/N: 2941013102
COMPONENT SIDE SIZE:1=1
SOLDER SIDE SIZE: 1=1



EADP-57BF A REV:2 CODE:0 2941013102



Exploded View



Spare Parts List

TYPE: 200W6CS/00

Mechanical Parts

0030 313815758471 FRONT BEZEL ASSY(S)
0031 313815415181 BEZEL(S)
0032 313815415211 CONTROL BUTTON(S)
0033 313815415221 POWER LENS
0034 313815415201 DECO STRIP
0040 313815758481 BACK COVER ASSY(S)
0041 313815415191 BACK COVER(S)
0042 313815415241 VENTILATION COVER(B)
0043 313815135071 KINGSTON PLATE
0044 313815133511 VESA PLATE
0045 313815410901 INSULATE PLATE
0050 313815758491 COMPACT BASE(S)
0090 313815759081 SHIELDING ASSY
0099 313810440571 HOUSING COVER
0100 313815415231 HINGE COVER(S)

Packing Materials

0450 313815639101 CARTON
0451 313815639111 CUHSION-R
0452 313815639121 CUHSION-L
0453 313810656651 PE BAG

Accessories

0602 313811708351 E-D.F.U.
0615 313811708381 HEX CODE OF F/W (NO MATL REQ)
1059 313818875051 SPEAKER CABLE(BLACK)
1060 313819871451 CORD SUB-D 15/1M8/SUB-D 15 BK
1061 313812874931 MAINSCORD
1063 313819872531 CORD USB A/1M8/USB B BK
1064 313818879281 CORD DVI 18+1/1M8/18+1 DVI BK

LCD Panel

1050 823827717791 TFT-LCD LM201W01-B5

PCB ASSY

1051 313815860471 SCALER PCB ASSY (NT68F631)
1052 313815860591 AUDIO PCB ASSY
1054 313815861831 USB ASSY
1055 823827717751 LIPS(RSFP-57BF A)

Others

0291 313815566841 LABEL-CPU-LPL
0295 313815566861 LABEL-EEPROM
1056 313819875251 CBLE-030 30/180/30-033 AWG28
1057 313815862861 FRAME+WIRE ASSY
1058 313815862911 SPEAKER BOX ASSY
1070 823827717901 LSP BOX 16R 2W-L(PS010017B)
1071 823827717911 LSP BOX 16R 2W-R(PS010017C)
1098 243803100435 SOC IC V 8P F 2.54 DIL L
1099 243803100437 SOC IC V 44P F 1.27 PLCC B
1201 242203300521 SOC DVI H 24P F 1.91DVI-D Y
1202 242202518432 SOC SUBD H 15P F SBFR Y
1351 243854300079 RES XTL SM 12MHZ 32P SMD-49 R
1352 242202518947 CON V 4P M 2.50 64834 B
1401 243854300086 RES XTL SM 14M318 18P HC49/S R
1402 242202518804 CON V 30P M 1.25 SM 60948 R
1501 242202518828 CON V 16P M 2.00 63396 B
1502 242202518825 CON V 13P M 2.00 63393 B
1903 242202518955 SOC USB V 4P F 2.5 5411 Y
1904 242202518948 CON V 5P M 2.50 64835 B
1905 242202605588 SOC PHONE V 1P F 3.5 ST B
1911 242202518814 CON V 2P M 2.00 63382 B
1912 242202518814 CON V 2P M 2.00 63382 B
1921 242202605594 SOC PHONE V 1P F 3.5 ST BK B
1931 242202518899 CON H 11P M 2.00 63371 B
1932 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1933 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1934 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1935 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1936 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1937 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1938 242212803007 SWI TACT 1P 1POS 12V V 5MM B
1950 242202518948 CON V 5P M 2.50 64835 B
1951 242202518875 SOC USB H 4P F 2.0 5401 Y
4444 313810610457 CD ROM - SERVICE MANUAL
4444 313810610458 SERVICE MANUAL
8061 313819875231 CBLE-027 16/280/11-021 AWG28
8062 313819875241 CBLE-385 5/110/5-385 AWG28

1051 313815860471 SCALER PCB ASSY(NT68F631)

2201 223878615649 CER2 0603 X7R 16V 100N PM10 R
2202 223878615649 CER2 0603 X7R 16V 100N PM10 R
2203 223886715331 CER1 0603 NP0 50V 330P PM5 R
2204 223886715331 CER1 0603 NP0 50V 330P PM5 R
2205 223878615649 CER2 0603 X7R 16V 100N PM10 R
2214 223878615649 CER2 0603 X7R 16V 100N PM10 R
2215 223886715331 CER1 0603 NP0 50V 330P PM5 R
2216 223886715331 CER1 0603 NP0 50V 330P PM5 R
2217 223886715339 CER1 0603 NP0 50V 33P PM5 R
2218 223886715221 CER1 0603 NP0 50V 220P PM5 R
2219 223878615649 CER2 0603 X7R 16V 100N PM10 R
2220 223886715568 CER1 0603 NP0 50V 5P6 PM0P5 R
2221 223878615645 CER2 0603 X7R 16V 47N PM10 R
2222 223858615623 CER2 0603 X7R 50V 1N PM10 R
2223 223886715568 CER1 0603 NP0 50V 5P6 PM0P5 R
2224 223878615645 CER2 0603 X7R 16V 47N PM10 R
2225 223878615645 CER2 0603 X7R 16V 47N PM10 R
2226 223886715568 CER1 0603 NP0 50V 5P6 PM0P5 R
2227 223878615645 CER2 0603 X7R 16V 47N PM10 R
2228 223878615645 CER2 0603 X7R 16V 47N PM10 R
2229 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2234 223878615649 CER2 0603 X7R 16V 100N PM10 R
2235 223878615649 CER2 0603 X7R 16V 100N PM10 R
2236 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2239 223878615649 CER2 0603 X7R 16V 100N PM10 R
2241 223878615645 CER2 0603 X7R 16V 47N PM10 R
2302 223878615649 CER2 0603 X7R 16V 100N PM10 R
2303 202203100198 ELCAP SM HV 16V 22U PM20 R
2304 223878615649 CER2 0603 X7R 16V 100N PM10 R
2305 223878615649 CER2 0603 X7R 16V 100N PM10 R
2306 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2308 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2409 222224119876 CER2 1206 Y5V 10V 10U P8020 R
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2414 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2417 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2425 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2503 202203100206 ELCAP SM HV 25V 47U PM20 R
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2505 223878615649 CER2 0603 X7R 16V 100N PM10 R
2506 202203100206 ELCAP SM HV 25V 47U PM20 R
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2514 223878615649 CER2 0603 X7R 16V 100N PM10 R
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2520 223878615645 CER2 0603 X7R 16V 47N PM10 R
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2522 223878615649 CER2 0603 X7R 16V 100N PM10 R
2523 223878615649 CER2 0603 X7R 16V 100N PM10 R
2524 222224119876 CER2 1206 Y5V 10V 10U P8020 R
2525 222224119876 CER2 1206 Y5V 10V 10U P8020 R
2526 223878615649 CER2 0603 X7R 16V 100N PM10 R

3201 212211805669 RST SM 0603 RC0603 10K PM5 R
3202 232270260102 RST SM 0603 RC21 1K PM5 R
3203 232270260102 RST SM 0603 RC21 1K PM5 R
3205 212211805669 RST SM 0603 RC0603 10K PM5 R
3207 212211805669 RST SM 0603 RC0603 10K PM5 R
3208 212211805669 RST SM 0603 RC0603 10K PM5 R
3209 212211805669 RST SM 0603 RC0603 10K PM5 R
3210 232270260223 RST SM 0603 RC21 22K PM5 R
3211 232270260101 RST SM 0603 RC21 100R PM5 R
3212 232270260101 RST SM 0603 RC21 100R PM5 R
3213 232270260101 RST SM 0603 RC21 100R PM5 R
3214 232270260101 RST SM 0603 RC21 100R PM5 R
3229 212211805669 RST SM 0603 RC0603 10K PM5 R
3230 212211805669 RST SM 0603 RC0603 10K PM5 R
3231 232270260101 RST SM 0603 RC21 100R PM5 R
3233 212211805669 RST SM 0603 RC0603 10K PM5 R

3234 232270260223 RST SM 0603 RC21 22K PM5 R
3235 232270260101 RST SM 0603 RC21 100R PM5 R
3236 232270260101 RST SM 0603 RC21 100R PM5 R
3237 232270260101 RST SM 0603 RC21 100R PM5 R
3238 232270260101 RST SM 0603 RC21 100R PM5 R
3239 232270260101 RST SM 0603 RC21 100R PM5 R
3240 232270260101 RST SM 0603 RC21 100R PM5 R
3241 232270260222 RST SM 0603 RC21 2K2 PM5 R
3242 232270260222 RST SM 0603 RC21 2K2 PM5 R
3243 212211805964 RST SM 0603 RC0603 75R PM1 R
3244 232270260569 RST SM 0603 RC21 56R PM5 R
3247 232270260471 RST SM 0603 RC21 470R PM5 R
3248 212211805964 RST SM 0603 RC0603 75R PM1 R
3249 232270260569 RST SM 0603 RC21 56R PM5 R
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3252 232270260569 RST SM 0603 RC21 56R PM5 R
3253 212211805964 RST SM 0603 RC0603 75R PM1 R
3254 232270260101 RST SM 0603 RC21 100R PM5 R
3255 232270260102 RST SM 0603 RC21 1K PM5 R
3256 212211805669 RST SM 0603 RC0603 10K PM5 R
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3259 232270260223 RST SM 0603 RC21 22K PM5 R
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3303 212211805645 RST SM 0603 RC0603 150R PM5 R
3304 212211805637 RST SM 0603 RC0603 22R PM5 R
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3312 212211805637 RST SM 0603 RC0603 22R PM5 R
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3314 235003510229 RST NETW SM ARV24 4X 22R PM5 R
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3316 235003510229 RST NETW SM ARV24 4X 22R PM5 R
3317 235003510229 RST NETW SM ARV24 4X 22R PM5 R
3318 235003510229 RST NETW SM ARV24 4X 22R PM5 R
3319 235003510229 RST NETW SM ARV24 4X 22R PM5 R
3320 235003510229 RST NETW SM ARV24 4X 22R PM5 R
3321 235003510229 RST NETW SM ARV24 4X 22R PM5 R
3322 212211805637 RST SM 0603 RC0603 22R PM5 R
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3352 232270260101 RST SM 0603 RC21 100R PM5 R
3353 212211805669 RST SM 0603 RC0603 10K PM5 R
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3357 212211805647 RST SM 0603 RC0603 220R PM5 R
3358 212211805669 RST SM 0603 RC0603 10K PM5 R
3359 232270260101 RST SM 0603 RC21 100R PM5 R
3360 212211805669 RST SM 0603 RC0603 10K PM5 R
3361 212211805669 RST SM 0603 RC0603 10K PM5 R
3364 212211805669 RST SM 0603 RC0603 10K PM5 R
3365 212211805669 RST SM 0603 RC0603 10K PM5 R
3366 212211805669 RST SM 0603 RC0603 10K PM5 R
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3368 232270260101 RST SM 0603 RC21 100R PM5 R
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3374 232270260101 RST SM 0603 RC21 100R PM5 R
3375 232270260101 RST SM 0603 RC21 100R PM5 R
3376 232270260101 RST SM 0603 RC21 100R PM5 R
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3402 232270260101 RST SM 0603 RC21 100R PM5 R
3403 212211805637 RST SM 0603 RC0603 22R PM5 R
3405 212211805669 RST SM 0603 RC0603 10K PM5 R
3408 212211805637 RST SM 0603 RC0603 22R PM5 R
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3416 232270260101 RST SM 0603 RC21 100R PM5 R
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3515 212211805669 RST SM 0603 RC0603 10K PM5 R
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3517 232270260104 RST SM 0603 RC21 100K PM5 R
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3524 232270260101 RST SM 0603 RC21 100R PM5 R
3525 212211805669 RST SM 0603 RC0603 10K PM5 R

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5202 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5204 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5301 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5302 242254945582 IND FXD 0805 EMI 100MHZ 300R R
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5402 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5403 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5404 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5405 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5406 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5407 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5409 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5410 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5412 242254945582 IND FXD 0805 EMI 100MHZ 300R R
5413 242254945579 IND FXD 1206 EMI 100MHZ 100R R
5501 242254945579 IND FXD 1206 EMI 100MHZ 100R R
5502 242254945579 IND FXD 1206 EMI 100MHZ 100R R
5503 242254945579 IND FXD 1206 EMI 100MHZ 100R R
5950 242254900126 IND FXD 0805 EMI 100MHZ 120R R

6201 933913910115 DIO SIG SM BAS32L (PHSE) R
6202 933913910115 DIO SIG SM BAS32L (PHSE) R
6203 933913910115 DIO SIG SM BAS32L (PHSE) R
6204 933913910115 DIO SIG SM BAS32L (PHSE) R
6210 932209863685 DIO SIG SM BAV99 (VISH) R
6211 932209863685 DIO SIG SM BAV99 (VISH) R
6212 932209863685 DIO SIG SM BAV99 (VISH) R
6213 932209863685 DIO SIG SM BAV99 (VISH) R
6214 932209863685 DIO SIG SM BAV99 (VISH) R
6215 932209863685 DIO SIG SM BAV99 (VISH) R
6216 932209863685 DIO SIG SM BAV99 (VISH) R
6217 932209863685 DIO SIG SM BAV99 (VISH) R
6219 932209863685 DIO SIG SM BAV99 (VISH) R
6220 932209863685 DIO SIG SM BAV99 (VISH) R
6221 932209863685 DIO SIG SM BAV99 (VISH) R
6222 932209863685 DIO SIG SM BAV99 (VISH) R
6223 932209863685 DIO SIG SM BAV99 (VISH) R
6224 932209863685 DIO SIG SM BAV99 (VISH) R
6225 932209863685 DIO SIG SM BAV99 (VISH) R
6226 932209863685 DIO SIG SM BAV99 (VISH) R
6227 932209863685 DIO SIG SM BAV99 (VISH) R
6401 932220675682 DIO REC M100AL-5301-E3 (VISH)B
6402 932220675682 DIO REC M100AL-5301-E3 (VISH)B

7201 932214526668 IC SM M24C02-WMN6 (ST00) R
7202 932214526668 IC SM M24C02-WMN6 (ST00) R
7301 823827716361 MEMORY IC
7302 932222075668 IC SM AME1117BCGTZ (AME0) R
7351 313815862841 CPU IC ASSY(7351)
7351 823827716341 MCU
7353 313815862851 EEPROM IC ASSY(7353)
7353 932218650682 IC AT24C16A-10PU-2.7 (ATME) L
7401 823827716351 SCALER IC
7403 932222077668 IC SM AME1117ECGTZ (AME0) R
7404 932222075668 IC SM AME1117BCGTZ (AME0) R
7405 932222076668 IC SM AME1117CCGTZ (AME0) R
7501 932217439685 TRA SIG SM BC857C (KEC0) R
7502 932217439685 TRA SIG SM BC857C (KEC0) R
7503 934036790115 TRA SIG SM PDTC114EK (PHSE) R
7504 932216638668 FET POW SM SI5441DC-E3 (VISH)R
7505 932222076668 IC SM AME1117CCGTZ (AME0) R

1052 313815860591 AUDIO PCB ASSY

2901 202203100261 ELCAP LZ 16V S 2200U PM20 B
2902 202203100258 ELCAP EB 16V S 470U PM20 B
2903 222278015663 CER2 0805 X7R 16V 1U PM10 R
2904 223886715478 CER1 0603 NP0 50V 4P7 PM0P25 R
2905 222278015663 CER2 0805 X7R 16V 1U PM10 R
2906 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2907 223886715478 CER1 0603 NP0 50V 4P7 PM0P25 R
2908 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2910 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2911 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2912 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2914 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2916 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2917 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2918 202202000964 ELCAP SS-H 10V S 330U PM20 B
2919 223886715101 CER1 0603 NP0 50V 100P PM5 R
2920 223886715101 CER1 0603 NP0 50V 100P PM5 R
2921 223886715101 CER1 0603 NP0 50V 100P PM5 R
2922 223878615649 CER2 0603 X7R 16V 100N PM10 R
2923 223886715101 CER1 0603 NP0 50V 100P PM5 R
2924 223824619863 CER2 0603 Y5V 10V 1U P8020 R
2925 222278015663 CER2 0805 X7R 16V 1U PM10 R
2926 223878615645 CER2 0603 X7R 16V 47N PM10 R
2927 223824619858 CER2 0603 Y5V 10V 470N P8020 R
2929 222278015663 CER2 0805 X7R 16V 1U PM10 R
2930 202202000964 ELCAP SS-H 10V S 330U PM20 B
2931 223858615636 CER2 0603 X7R 50V 10N PM10 R
2932 223858615636 CER2 0603 X7R 50V 10N PM10 R
2935 223858615636 CER2 0603 X7R 50V 10N PM10 R
2936 223858615636 CER2 0603 X7R 50V 10N PM10 R
2937 223858619812 CER2 0603 Y5V 50V 100N P8020 R
2938 223858615636 CER2 0603 X7R 50V 10N PM10 R
2939 223858615636 CER2 0603 X7R 50V 10N PM10 R

3903 212211805972 RST SM 1206 JUMP. MAX 0R05 R
3905 212211805972 RST SM 1206 JUMP. MAX 0R05 R
3908 212211805676 RST SM 0603 RC0603 33K PM5 R
3909 212211805681 RST SM 0603 RC0603 68K PM5 R
3914 232270260123 RST SM 0603 RC21 12K PM5 R
3915 232270260472 RST SM 0603 RC21 4K7 PM5 R
3916 232270260123 RST SM 0603 RC21 12K PM5 R
3917 232270260472 RST SM 0603 RC21 4K7 PM5 R
3921 232270260104 RST SM 0603 RC21 100K PM5 R
3922 232270260104 RST SM 0603 RC21 100K PM5 R
3923 212211805669 RST SM 0603 RC0603 10K PM5 R
3924 212211805669 RST SM 0603 RC0603 10K PM5 R
3926 212211805669 RST SM 0603 RC0603 10K PM5 R
3927 212211805682 RST SM 0603 RC0603 82K PM5 R
3928 212211805673 RST SM 0603 RC0603 18K PM5 R
3929 232270260102 RST SM 0603 RC21 1K PM5 R
3930 232270260102 RST SM 0603 RC21 1K PM5 R
3931 232270260102 RST SM 0603 RC21 1K PM5 R
3932 212211805669 RST SM 0603 RC0603 10K PM5 R
3933 232270260473 RST SM 0603 RC21 47K PM5 R
3934 232270260102 RST SM 0603 RC21 1K PM5 R
3935 212211805669 RST SM 0603 RC0603 10K PM5 R
3936 232270260473 RST SM 0603 RC21 47K PM5 R
3937 232270260101 RST SM 0603 RC21 100R PM5 R
3938 232270260511 RST SM 0603 RC21 510R PM5 R
3939 232270260102 RST SM 0603 RC21 1K PM5 R

5901 242254900463 FIL MAINS 16MH 1A LS-PH04 Y
5903 242254900126 IND FXD 0805 EMI 100MHZ 120R R
5904 242254900126 IND FXD 0805 EMI 100MHZ 120R R
5905 242254900211 IND FXD 0805 EMI 100MHZ 220R R
5906 242254900211 IND FXD 0805 EMI 100MHZ 220R R
5907 242254900211 IND FXD 0805 EMI 100MHZ 220R R
5908 242254900211 IND FXD 0805 EMI 100MHZ 220R R
5909 242254900126 IND FXD 0805 EMI 100MHZ 120R R
5929 242254900064 IND FXD 0805 EMI 100MHZ 220R R
5930 242254900064 IND FXD 0805 EMI 100MHZ 220R R
5931 242254900126 IND FXD 0805 EMI 100MHZ 120R R

6901 932220628682 DIO REC SB140AL-5301 (VISH) B
6931 932214603682 LED VS L-3WYGW (KIEL) B

7901 932219970668 IC SM TPA6030A4PWP (TI00) R

Recommended Parts List

TYPE: 200W6CS/00

0030	313815758471	FRONT BEZEL ASSY(S)
0031	313815415181	BEZEL(S)
0032	313815415211	CONTROL BUTTON(S)
0033	313815415221	POWER LENS
0034	313815415201	DECO STRIP
0040	313815758481	BACK COVER ASSY(S)
0041	313815415191	BACK COVER(S)
0042	313815415241	VENTILATION COVER(B)
0043	313815135071	KINGSTON PLATE
0044	313815133511	VESA PLATE
0045	313815410901	INSULATE PLATE
0050	313815758491	COMPACT BASE(S)
0090	313815759081	SHIELDING ASSY
0099	313810440571	HOUSING COVER
0100	313815415231	HINGE COVER(S)
7201	932214526668	IC SM M24C02-WMN6 (ST00) R
7202	932214526668	IC SM M24C02-WMN6 (ST00) R
7301	823827716361	MEMORY IC
7302	932222075668	IC SM AME1117BCGTZ (AME0) R
7351	313815862841	CPU IC ASSY(7351)
7351	823827716341	MCU
7353	313815862851	EEPROM IC ASSY(7353)
7353	932218650682	IC AT24C16A-10PU-2.7 (ATME) L
7401	823827716351	SCALER IC
7403	932222077668	IC SM AME1117ECGTZ (AME0) R
7404	932222075668	IC SM AME1117BCGTZ (AME0) R
7405	932222076668	IC SM AME1117CCGTZ (AME0) R
7501	932217439685	TRA SIG SM BC857C (KEC0) R
7502	932217439685	TRA SIG SM BC857C (KEC0) R
7503	934036790115	TRA SIG SM PDTC114EK (PHSE) R
7504	932216638668	FET POW SM SI5441DC-E3 (VISH)R
7505	932222076668	IC SM AME1117CCGTZ (AME0) R
7901	932219970668	IC SM TPA6030A4PWP (TI00) R

PHILIPS

HUDSON6-200W 20.1 INCH
GENERAL PRODUCT
SPECIFICATION

. ANALOG AND DIGITAL DUAL INPUT

. AUTO PICTURE ADJUSTMENT

. 15 FACTORY PRESET MODES AND 37 PRESET MODES WHICH CAN BE RECOVERED TO PRESET MODES

. USER FRIENDLY OSD DISPLAY FOR MODE IDENTIFICATION /ADJUSTMENT

. DDC 2B COMMUNICATION CAPABILITY

. MAX. RESOLUTION 1600*1200 NON-INTERLACED AT 60 HZ

. 20.1□COLOR TFT LCD FLAT PANEL

. EASY TILT & FOLDABLE BASE

. FULL RANGE POWER SUPPLY 90 - 264 VAC

. CE ENVIRONMENTAL POLICY

. ANTI-GLARE TO REDUCE LIGHT REFLECTION

. POWER MANAGEMENT CAPABILITY

. SOG SUPPORT

. TCO 03 / TCO 95

. AUDIO SUPPORT

.

CLASS NO.

20.1 INCH FT UXGA LCD MONITOR
(HUDSON6-200W6)
TYPE : 200W6CS/00
BRAND : PHILIPS

8639 000 16138

2005-02-04

NAME JERRY CHEN | SUPERS. | 25 | 590 — 1 | 10 | A4

TY | CHECK | DATE 2005-02-04

Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.

2838 100 05424

PHILIPS

CLASS NO.	20.1 INCH FT UXGA LCD MONITOR (HUDSON6-200W6) TYPE : 200W6CS/00 BRAND : PHILIPS			8639 000 16138			
2005-02-04							
NAME JERRY CHEN	SUPERS.	25	590 — 2	10		A4	
TY CHECK	DATE 2005-02-04	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.					

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1.0 FOREWORD

This specification describes a 20.1" WUXGA multi-scan color TFT LCD monitor with max. resolution up to 1680*1050/ 60 Hz non-interlaced. All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follow strictly after panel specification.

2.0 PRODUCT PROFILE

This display monitor unit is a color display monitor enclosed in PHILIPS global styling cabinet which has an integrated tilt and swivel base.

2.1 LCD

Type NR.	: LM201W01 (LG.PHILIPS)
Outside dimensions	: 459.4(H)*296.4(V)*23.7(D) (Typ) mm
Pixel Pitch (mm)	: 0.258 mm x 0258mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7M colors (8 bits)
Backlight	: Six CCFLs
Active area(WxH)	: 433.44x270.9mm (20.1INCH W diagonal)
View angle	: Horizontal & Vertical 178 degree (CR>=10)
Contrast ratio	: 600:1 (Typ) ,400 :1 (min)
White luminance	: Panel original color >220nits (min), 300 nits (Typ.)

Type NR.	: M201EW01 (AUO)
Outside dimensions	: 459.4(H)*296.4(V)*23.7(D) (Typ) mm
Pixel Pitch (mm)	: 0.258 mm x 0258mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7M colors (8 bits)
Backlight	: Six CCFLs
Active area(WxH)	: 433.44x270.9mm (20.1INCH W diagonal)
View angle	: Horizontal & Vertical 170 degree (CR>=10)
Contrast ratio	: 800:1 (Typ) ,400 :1 (min)
White luminance	: Panel original color >250nits (min), 300 nits (Typ.)

2.2 Scanning frequencies

Hor.	: 30 - 93 K Hz
Ver.	: 56 - 85 Hz
2.3 Video dot rate	: 165 MHz
2.4 Power input	: 90-264 V AC, 50/60 +/- 2 Hz
2.5 Power consumption	: < 68W maximum

CLASS NO.

2005-02-04

20.1 INCH FT UXGA LCD MONITOR
(HUDSON6-200W6)
TYPE : 200W6CS/00
BRAND : PHILIPS

8639 000 16138

NAME JERRY CHEN | SUPERS. | 25 | 590 — 4 | 10 | A4

TY | CHECK | DATE 2005-02-04 | Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.

2838 100 05424

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2.6 Dimensions : 478(W) * 428(H) * 235(D) mm
Weight : 7.8Kg

2.8 Functions :

(1) D-SUB analog R/G/B separate inputs, H/V sync separated, Composite (H+V) TTL level, SOG sync

(2) DVI digital Panel Link TMDS input

(3)Audio Signal : PC line in

2.9 Ambient temperature : 0 ºC - 35 °°C

2.10 Regulatory compliance :

Safety * medical compliance only apply for dedicated models	B(Poland), CCC(China), CE(Europe), CSA(Canada), DEMKO(Nordic), EZU(Czech), FIMKO(Nordic), Gost(Russia), IEC 950 CB Report, NOM NYCE(Mexico), PSB(Singapore), SEMKO(Nordic), SISIR CPA(Singapore), TUV(Germany), UL(USA) UL2601-1 (NAFTA) ,EN60601-1-1 (EU) and IEC60601-1 (WW)
EMI	C-tick, CE(Europe), FCC(USA), IC(Canada), VCCI(Japan), BSMI
Ergonomics	E2000, Nutek(Sweden), TCO2003 (T-color) & TCO95 (Black/Silver), TUV/GS
Compatibility	Windows2000, Windows 98/Me, Windows XP, NSTL

3.0 Electrical characteristics

3.1 Interface signals

The input signals can be applied in three different modes :

1). D-Sub Analog

Input signal : Video, Hsync., Vsync

Video : 0.7 Vp-p, input impedance, 75 ohm @DC
Sync. : Separate sync TTL level , input impedance 2.2k ohm terminate
Hsync Positive/Negative
Vsync Positive/Negative
Composite sync TTL level, input impedance 5k ohm terminate (Positive/Negative)
Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

2). Intel DVI Digital

Input signal : Single channel TMDS signal

3.1.1 Audio Electrical Performance

Input signal level: 500mVrms
Input signal connector: 3.5 mm mini jack
Loudspeaker: 2W+2W stereo (Impedance: 16 Ohm+/- 15%)
Headphone output signal level: 500+/-100mVrms (headphone impedance: 32ohm)
Frequency range: 200Hz - 12KHz

PC audio cable
Length : 1.8 M +100/- 0 mm (fixed)

3.2 Interface

3.2.1 D-Sub Cable
Length : 1.8 M +100/- 0 mm (fixed)
Connector type : D-Sub male with DDC2B pin assignments.

Blue connector thumb-operated jack screws

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pin assignment :

PIN No.	SIGNAL
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	Cable detect
6	Red GND
7	Green GND
8	Blue GND
9	DDC +5V
10	GND
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

3.2.2 DVI Cable

The input signals are applied to the display through DVI-D cable.

Length : 1.8 M +100/- 0 mm (fixed)

Connector type : DVI-D male with DDC2B pin assignments

White connector thumb-operated jack screws

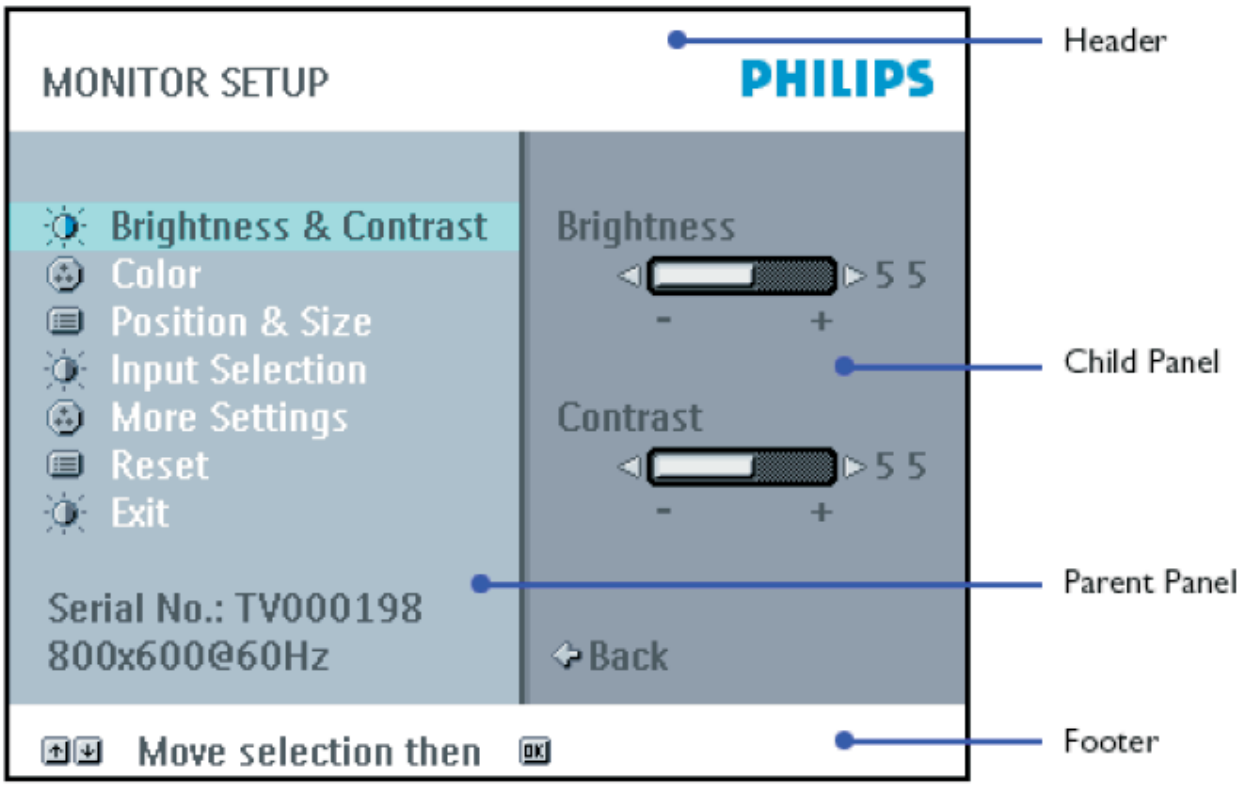
pin assignment :

Pin No.	Description
1	TMDS data2-
2	TMDS data2+
3	TMDS data2 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	Analog V-sync
9	TMDS data1-
10	TMDS data1+
11	TMDS data1 shield
12	NC
13	NC
14	+5V
15	Ground(return for +5V and H/Vsync)
16	Hot plug detect
17	TMDS data0-
18	TMDS data0+
19	TMDS data0 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-

3.2.5 Software control functions via OSD/control adjustable functions:

(1) PC Analog only Signal Input Mode

Adjustable functions:



CLASS NO.	20.1 INCH FT UXGA LCD MONITOR (HUDSON6-200W6) TYPE : 200W6CS/00 BRAND : PHILIPS			8639 000 16138				
2005-02-04								
NAME JERRY CHEN	SUPERS.		25	590 — 9		10		A4
TY CHECK	DATE 2005-02-04	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.						

GENERAL PRODUCT SPECIFICATION

Main Menu	Sub Menu	Sub Menu 2	Description	Default
Exit			Default starting point	
Brightness & Contrast				
	Brightness		Sliding bar	100
	Contrast		Sliding bar	50
Color				
	Original			
	9300K			
	6500K			6500K
	sRGB			
	User define			
	R		Sliding bar	
	G		Sliding bar	
	B		Sliding bar	
Position & Size				
	Position			
	Horizontal		Sliding bar	
	Vertical		Sliding bar	
More Settings				
	Language	English	Left/right arrow to select	English
		French		
		German		
		Italian		
		Spanish		
		S. Chinese		
	Phase / Clock	Phase	Sliding bar	
		Clock	Sliding bar	
	OSD setting	OSD position V		
		OSD position H	Sliding bar	
Reset				

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3.3 Timing requirement

3.3.1 Mode storing capacity

(1) Factory preset modes : 15

(2) Preset modes : 39

3.3.2 Factory preset timings

The factory settings of size and centering are according to the reference timing charts (see fig-4, fig-5)

MODE NO.	1	2	3	4
RESOLUTION	640 x 350	720 x 400	640 x 480	640 x 480
Dot clock(MHz)	25.175	28.321	25.175	30.24
f h	31.469kHz	31.468kHz	31.5kHz	35 kHz
H-total (us)	31.778(800 dots)	31.78(900dots)	31.778(800 dots)	28.571 (864 dots)
H-sync width (us)	3.813(96 dots)	3.813(108dots)	3.813(96 dots)	2.116 (64 dots)
H-back porch (us)	1.907(48 dots)	1.907(54dots)	1.907(48 dots)	3.175(96 dots)
H-video width (us)	25.422(640 dots)	25.42(720dots)	25.422(640 dots)	21.164(640 dots)
H-front porch (us)	0.636(16 dots)	0.636(18dots)	0.636(16 dots)	2.116(64 dots)
f v	70Hz(70.09)	70Hz(70.085)	60Hz(59.940)	67Hz
V-total (ms)	14.27(449 lines)	14.27(449 lines)	16.683 (525 lines)	15 (525 lines)
V-sync width (ms)	0.064(2 lines)	0.064(2 lines)	0.064 (2 lines)	0.086(3 lines)
V-back porch (ms)	1.907(60 lines)	1.112(34 lines)	1.049 (33 lines)	1.114(39 lines)
V-video width (ms)	11.12(350 lines)	12.71(400 lines)	15.253 (480 lines)	13.714(480 lines)
V-front porch (ms)	1.175(37 lines)	0.381(13 lines)	0.317 (10 line)	0.086(3 line)
SYNC. H/V POLARITY	+/-	-/+	- / -	- / -
SEP . SYNC	Y	Y	Y	Y

GENERAL PRODUCT SPECIFICATION

MODE NO.	5	6	7	8
RESOLUTION	640 x 480	800 x 600	800 x 600	800 x 600
Dot clock(MHz)	31.500	36	40	49.498
f h	37.5kHz	35.156kHz	37.879kHz	46.875kHz
H-total (us)	26.667 (840 dots)	28.444(1024 dots)	26.4 (1056 dots)	21.333 (1056 dots)
H-sync width (us)	2.032 (64 dots)	2.000 (72 dots)	3.2 (128 dots)	1.616 (80 dots)
H-back porch (us)	3.81 (120 dots)	3.556 (128 dots)	2.2 (88 dots)	3.232 (160 dots)
H-video width (us)	20.317 (640 dots)	22.222(800 dots)	20 (800 dots)	16.162 (800 dots)
H-front porch (us)	0.508 (16 dots)	0.666 (24 dots)	1 (40 dots)	0.323 (16 dots)
f v	75Hz	56.250Hz	60.317Hz	75Hz
V-total (ms)	13.333 (500 lines)	17.778 (625 lines)	16.579 (628 lines)	13.333 (625 lines)
V-sync width (ms)	0.08 (3 lines)	0.057 (2 lines)	0.106 (4 lines)	0.064 (3 lines)
V-back porch (ms)	0.427 (16 lines)	0.626 (22 lines)	0.607 (23 lines)	0.448 (21 lines)
V-video width (ms)	12.8 (480 lines)	17.066 (600 lines)	15.84 (600lines)	12.8 (600 lines)
V-front porch (ms)	0.026 (1 lines)	0.029 (1 line)	0.026 (1 line)	0.021 (1 line)
SYNC. H/V POLARITY	- / -	+ / +	+ / +	+ / +
SEP . SYNC	Y	Y	Y	Y

MODE NO.	9	10	11	12
RESOLUTION	1024 x 768	1024 x 768	1152 x 870	1280 x 1024
Dot clock(MHz)	65	78.75	100	108
f h	48.363kHz	60.023kHz	68.7kHz	63.981kHz
H-total (us)	20.677(1344 dots)	16.66 (1312dots)	14.56 (1456 dots)	15.63 (1688 dots)
H-sync width (us)	2.092(136 dots)	1.219 (96 dots)	1.28 (128 dots)	1.037 (112 dots)
H-back porch (us)	2.462(160 dots)	2.235 (176 dots)	1.44(144 dots)	2.296 (248 dots)
H-video width (us)	15.754(1024 dots)	13.003 (1024 dots)	11.52 (1152 dots)	11.852 (1280 dots)
H-front porch (us)	0.369(24 dots)	0.203 (16 dots)	0.32 (32 dots)	0.445 (48 dots)
f v	60.004Hz	75Hz (75.000)	75Hz	60.020Hz
V-total (ms)	16.666(806 lines)	13.328 (800 lines)	13.333 (916 lines)	16.661 (1066 lines)
V-sync width (ms)	0.124(6 lines)	0.05(3 lines)	0.044 (3 lines)	0.047 (3 lines)
V-back porch (ms)	0.600(29 lines)	0.446 (28 lines)	0.568(39 lines)	0.594 (38 lines)
V-video width (ms)	15.880(768 lines)	12.80 (768 lines)	12.678 (870 lines)	16.005 (1024 lines)
V-front porch (ms)	0.062(3 lines)	0.017 (1 line)	0.043 (4 line)	0.015 (1 line)
SYNC. H/V POLARITY	- / -	+ / +	- / -	+ / +
SEP . SYNC	Y	Y	Y	Y

CLASS NO.

2005-02-04

20.1 INCH FT UXGA LCD MONITOR
(HUDSON6-200W6)
TYPE : 200W6CS/00
BRAND : PHILIPS

8639 000 16138

NAME JERRY CHEN | SUPERS. | 25 | 590 — 12 | 10 | A4

TY | CHECK | DATE 2005-02-04

2838 100 05424

MODE NO.	13	14	15	
RESOLUTION	1280 x 1024	1600 x 1200	1680 x 1050	
Dot clock(MHz)	135	162	146.249	
f h (kHz)	79.976kHz	75	65.29	
H-total (us)	12.504(1688 dots)	13.333(2160 dots)	15.316(2240 dots)	
H-sync width (us)	1.067(144 dots)	1.185(192 dots)	1.203(176 dots)	
H-back porch (us)	1.837(248 dots)	1.877(304 dots)	1.915(280 dots)	
H-video width (us)	9.481(1280 dots)	9.877(1600 dots)	11.487(1680 dots)	
H-front porch (us)	0.119(16 dots)	0.395(64 dots)	0.711(104 dots)	
f v (Hz)	75.025Hz	60.000	59.954	
V-total (ms)	13.329(1066 lines)	16.667(1250 lines)	16.679(1089 lines)	
V-sync width (ms)	0.038(3 lines)	0.040(3 lines)	0.092(6 lines)	
V-back porch (ms)	0.475(38 lines)	0.613(46 lines)	0.459(30 lines)	
V-video width (ms)	12.804(1024 lines)	16.000(1200 lines)	16.082(1050 lines)	
V-front porch (ms)	0.012 (1 line)	0.013(1 lines)	0.046(3 lines)	
SYNC. H/V POLARITY	+/+	+/+	+/+	
SEP . SYNC	Y	Y	Y	

3.3.3 Horizontal scanning
Sync polarity : Positive or Negative
Scanning frequency : 30 - 93 K Hz

3.3.4 Vertical scanning
Sync polarity : Positive or Negative
Scanning frequency : 56 - 85 Hz

3.4 Power input connection
Power cord length : 1.8 M
Power cord type : 3 leads power cord with protective earth plug.

3.5 Power management
The monitor must comply with the Microsoft On Now specification, with two power management states, as defined by the VESA DPMS document. The monitor

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	< 60 W	Green LED	Without Audio
Power-On	On	On	active	< 68 W	Green LED	With Audio
off	Off	On	blanked	< 1.5 W	Amber LED	< 3 s
off	On	Off	blanked	<1.5 W	Amber LED	< 3 s
Off	Off	Off	blanked	< 1.5 W	Amber LED	< 3 s
DC Power Off			N/A	< 1.5W	LED Off	

3.6 Display identification

3.6.1 In accordance with VESA Display Channel Standard Ver.1.0 and having DDC 2B capability
3.6.2 In accordance with DVI requirement (DDWG digital Visual Interface revision 1.0) use DDC 2B and EDID 3.0 structure 2.0

PHILIPS

4.0 Visual characteristics

4.1 Test conditions

Unless otherwise specified, this specification is defined under the following conditions.

(1) Input signal : As defined in 3.3, 1600x 1200 non-interlaced mode (75K/60Hz), signal sources must have 75 ohm output impedance.

(2) Luminance setting : controls to be set to 200 nits with full screen 70 % duty cycle white signal

(3) Warm up: more than 30 minutes after power on with signal supplied.

(4) Ambient light: 400 -- 600 lux.

(5) Ambient temperature: 20 □ 5 °C

4.2 Resolution
Factory preset modes (15 modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	Item	H.Freq. (KHz)	Mode	Resolution	V.Freq . (Hz)
1	31.469	IBM VGA 10H	640x350	70.086	9	48.363	VESA	1024x768	60.004
2	31.469	IBM VGA 3H	720x400	70.087	10	60.023	VESA	1024x768	75.029
3	31.469	IBM VGA 12H	640x480	59.940	11	68.700	MACINTOSH	1152x870	75.000
4	35.000	MACINTOSH	640x480	67.000	12	63.981	VESA	1280x1024	60.020
5	37.500	VESA	640x480	75.000	13	79.976	VESA	1280x1024	75.025
6	35.156	VESA	800x600	56.250	14	75.0	VESA	1600x1200	60
7	37.879	VESA	800x600	60.317	15	65.29	-	1680x1050	60.0
8	46.875	VESA	800x600	75.000					

Note : 1. Screen displays at 37 preset modes
2. Screen displays perfect picture at 15 factory preset modes
3. Screen displays visible picture with OSD warning when input modes are other then 22 preset modes

4.3 Brightness : >=200 nits (at panel color temperature, at center of the screen, set contrast and brightness at maximum.)

4.4 Image size

4.4.1 Actual display size 433.44 x 270.9mm

4.5 Brightness uniformity

Set contrast at 100% and turn the brightness to get average above 200 nits at centre of the screen.
Apply the Fig 1, it should comply with the following formula:

$$\frac{\text{Minimum luminance of nine points (brightness)}}{\text{Maximum luminance of nine points (brightness)}} >= 0.70 \text{ (Min.)}$$

PHILIPS

4.6 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %.
Measure YA. Then output Pattern 3 and measure YB.
the cross talk value :

$$\frac{ABS(\ YA\ -\ YB\ )}{YA}\ X\ 100\%\ <\ 1.2\ \%$$

4.7 White color adjustment

There are three factory preset white color 9300K, 6500K, sRGB.

Apply full gray64 pattern, with brightness in 100 % position
and the contrast control at 50 % position.
The 1931 CIE Chromaticity (color triangle) diagram (x,y)
coordinate for the screen center should be:

9300K CIE coordinates X = 0.283 +/- 0.020
Y = 0.297 +/- 0.020

6500K/ sRGB CIE coordinates X = 0.313 +/- 0.020
Y = 0.329 +/- 0.020

5.0 Mechanical characteristics

5.1 Controls

Front side:
- DC power switch
- OSD function key (OK)
- UP
- DOWN
- RIGHT
- LEFT
- AUTO

Rear : - D-SUB
- DVI-D
- Power cord socket
- Audio in jack
- Earphone Jack

5.2 Unit dimension / Weight

Set dimension (incl. pedestal): 478(W) * 428(H) * 235(D) mm

Net weight : 7.8 Kg (Including I/F cable 240 g)

5.3 Tilt and swivel base

Tilt angle : -5 °to +25°
Swivel angle : +/- 125 °

5.4 Transportation packages

5.4.1 Shipping dimension/Weight
Carton dimension : 568(W) X 197(H) X 517(D) mm
Gross weight : 9.5 KG

5.4.2 Block unit / Palletization

layers/ block	sets/ layer	sets/ block unit
11	4	44

6.0 Environmental characteristics
The following sections define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

Operating
- Temperature : 0 to 35 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage
- Temperature : -30 to 60 degree C
- Humidity : 85% max (< 40℃)

- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR
  Note: recommend at 5 to 35°C, Humidity less than 60 %

6.2 Transportation tests

6.3

Standard		Philips UAN-D1400	NSTA
Drop Test	Height	76.2cm(1~9.52kg) 61 cm(9.53~18.59kg)	76.2cm(1~9.52kg) 61 cm(9.53~18.59kg)
	Sequence	1 corner 3 faces After -10°C	1 corner 3 edge 6 face
	Test Result	Electrical function ok Mechanical function ok No serious damage on set appearance (Room temp./-10°c, humidity 70 %)	
Vibration Test	Sequence	Packaging: 5-200 Hz 0.73 G 30 min. for each axis	Operating: 10-50-10 Hz 0.35 mm 30 min. for each axis
	Test Result	Electrical function ok Mechanical function ok No serious damage on set appearance	
Shock Test	For design evaluation only Operating 30 G, 16 m-sec, 6 cycles Temperature : 23°C Humidity : 60 % Air pressure : 100 kpa (According to DSD draft standard UAN-D636)		

6.3 Display disturbances from external environment
According to IEC 801-2 for ESD disturbances

6.4 Display disturbances to external environment

6.4.1 EMI
EMI : C-tick, CE(Europe), FCC(USA), IC(Canada), VCCI(Japan), BSMI

7.0 Reliability

7.1 Mean Time Between Failures
System MTBF (Excluding the LCD panel and CCFL) : 50,000 hrs
CCFL MTBF : 40,000 hrs

PHILIPS

8.0 Quality assurance requirements

8.1 Acceptance test
According to MIL-STD-105D Control II level

AQL: 0.65 (major)
2.50 (minor)
(Please also refer to annual quality agreement)
Customer acceptance criteria: UAW0377/00

9.0 Serviceability
The serviceability of this monitor should fulfill the requirements which are prescribed in UAW-0346 and must be checked with the check list UAT-0361.

PHILIPS

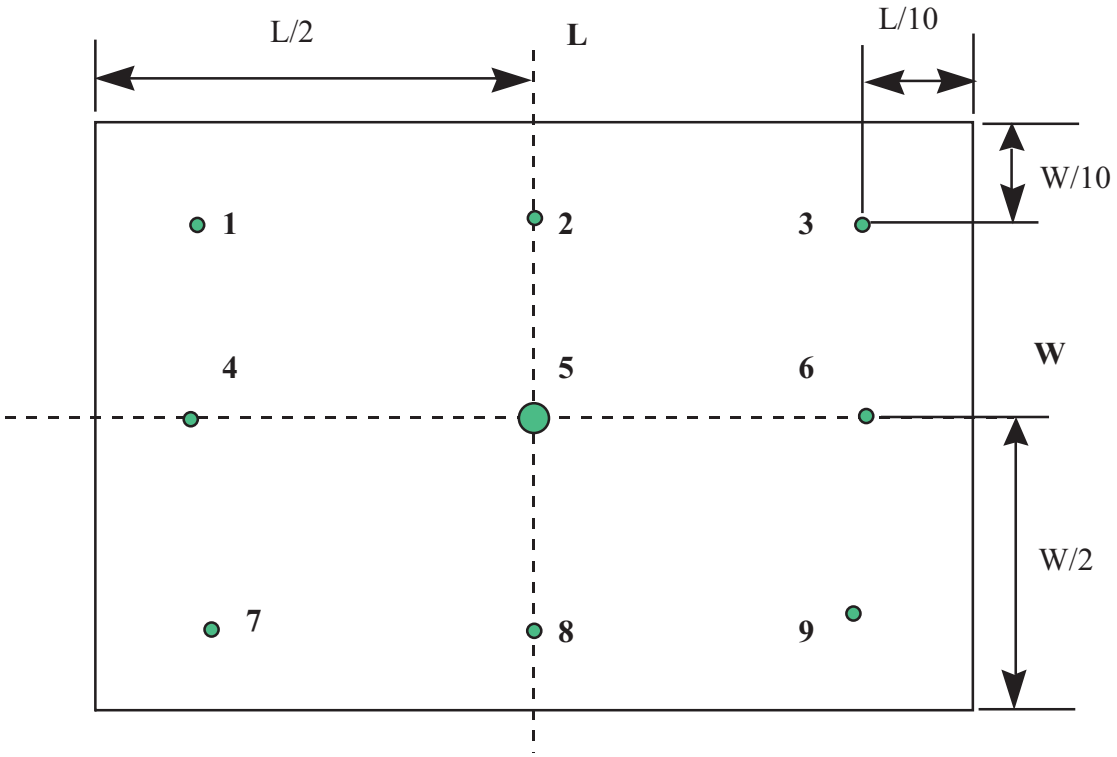
10. LCD PANEL CHARACTERISTICS REQUIREMENTS

LCD Panel Pixel Defect Requirement

	Acceptable Level
Bright Dot Defects	
1 lit subpixel	4 or fewer
2 adjacent lit subpixels	2 or fewer
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects	15mm or more
Bright dot defects within 20mm circle	3 or fewer
Total bright dot defects of all types	4 or fewer
Dark Dot Defects	
1 dark subpixel	4 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels (one white pixel)	0
Distance between two black dot defects	15mm or more
Black dot defects within 20mm circle	3 or fewer
Total black dot defects of all types	4 or fewer
Total bright or black dot defects of all types	5 or fewer

*Note: 1 or 2 adjacent subpixel defects= 1 dot defect

Fig 1: Brightness Uniformity



CLASS NO.	20.1 INCH FT UXGA LCD MONITOR (HUDSON6-200W6) TYPE : 200W6CS/00 BRAND : PHILIPS			8639 000 16138					
2005-02-04									
NAME JERRY CHEN	SUPERS.	25	590 — 22	10	A4				
TY CHECK	DATE 2005-02-04	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.							

2838 100 05424

Fig 2: Cross talk pattern
Gray level 46 (64 Gray level)

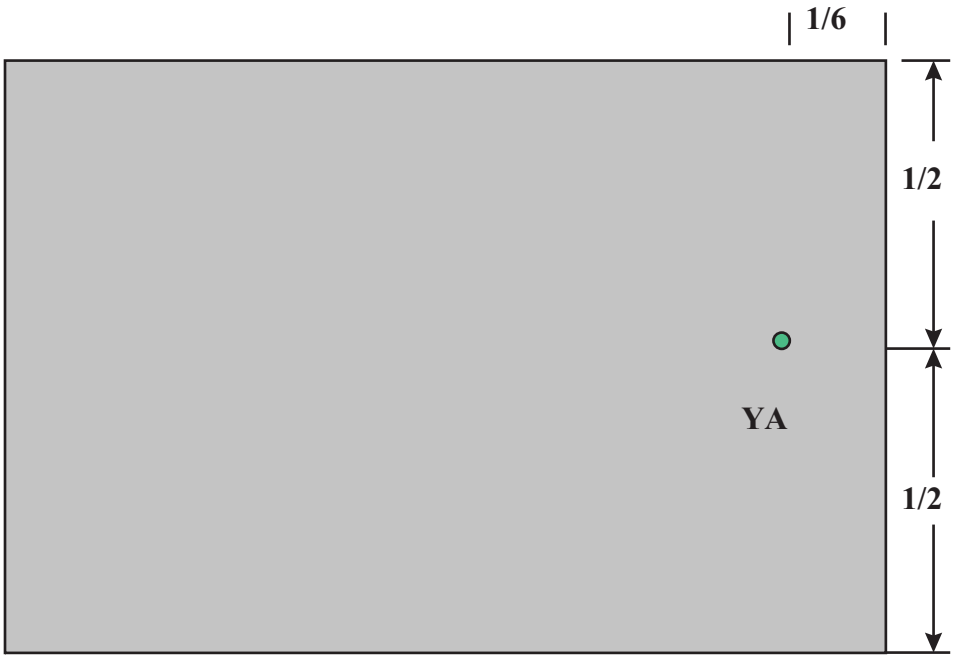
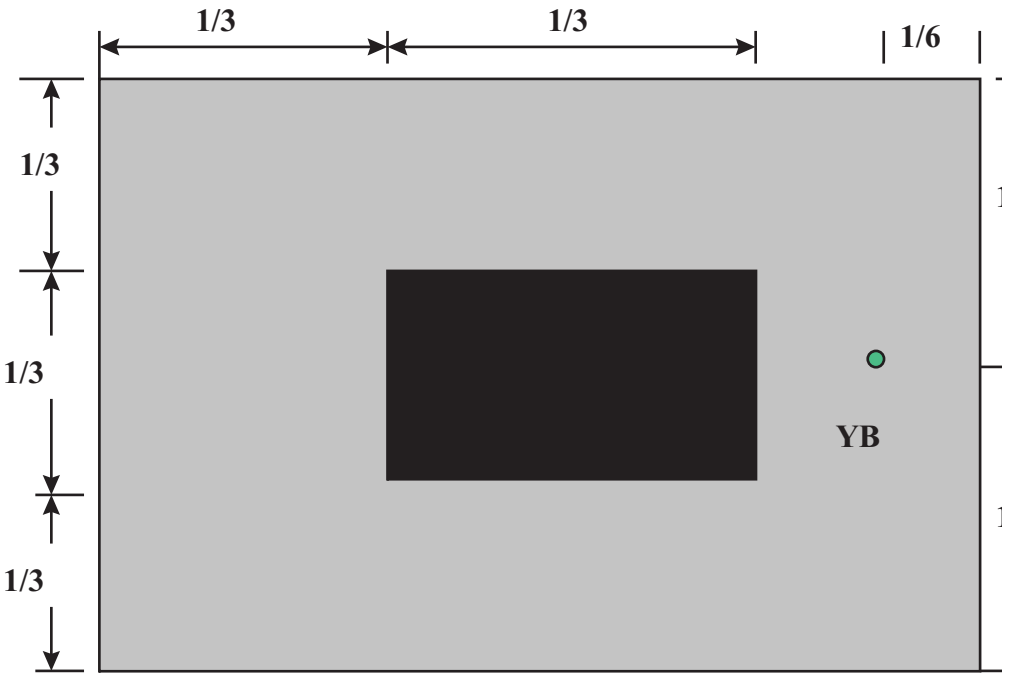


Fig 3: Cross talk Pattern
Center at Gray level 0 (Black)



CLASS NO.	20.1 INCH FT UXGA LCD MONITOR (HUDSON6-200W6) TYPE : 200W6CS/00 BRAND : PHILIPS			8639 000 16138				
2005-02-04								
NAME JERRY CHEN	SUPERS.		25	590 — 23		10		A4
TY	CHECK	DATE 2005-02-04	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.					

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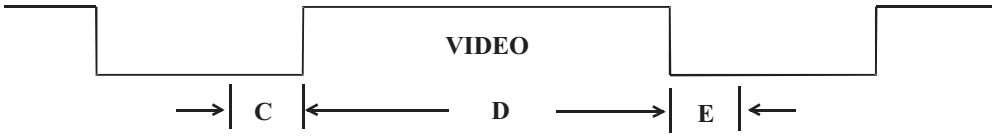
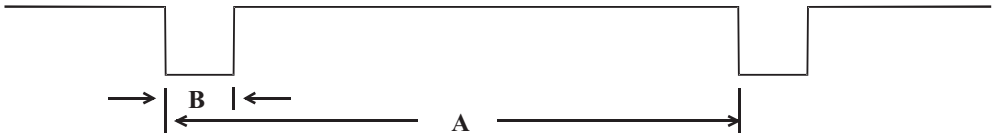
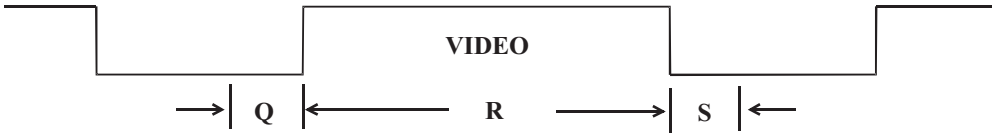
SEPARATE SYNC.

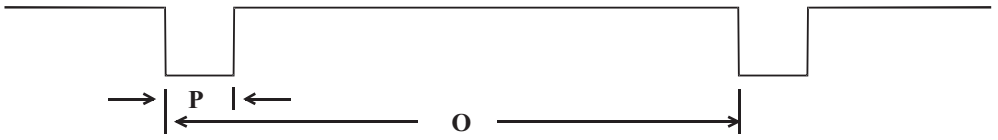


HORIZONTAL

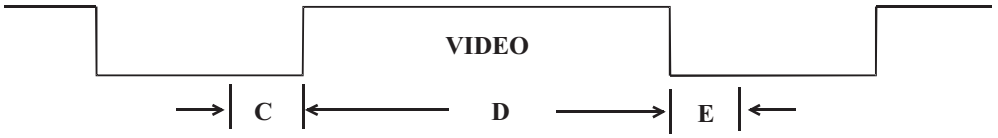




VERTICAL



COMPOSITE SYNC.



HORIZONTAL

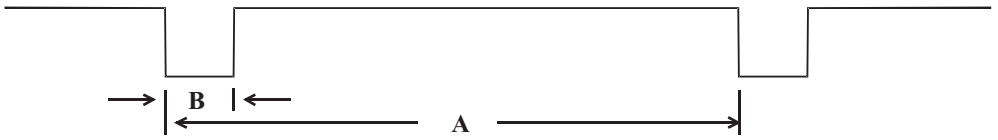


FIG-4 TIMING CHART -1

CLASS NO.	20.1 INCH FT UXGA LCD MONITOR (HUDSON6-200W6) TYPE : 200W6CS/00 BRAND : PHILIPS	8639 000 16138
2005-02-04		

NAME JERRY CHEN	SUPERS.	25	590 — 24	10		A4
TY	CHECK	DATE 2005-02-04	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.			

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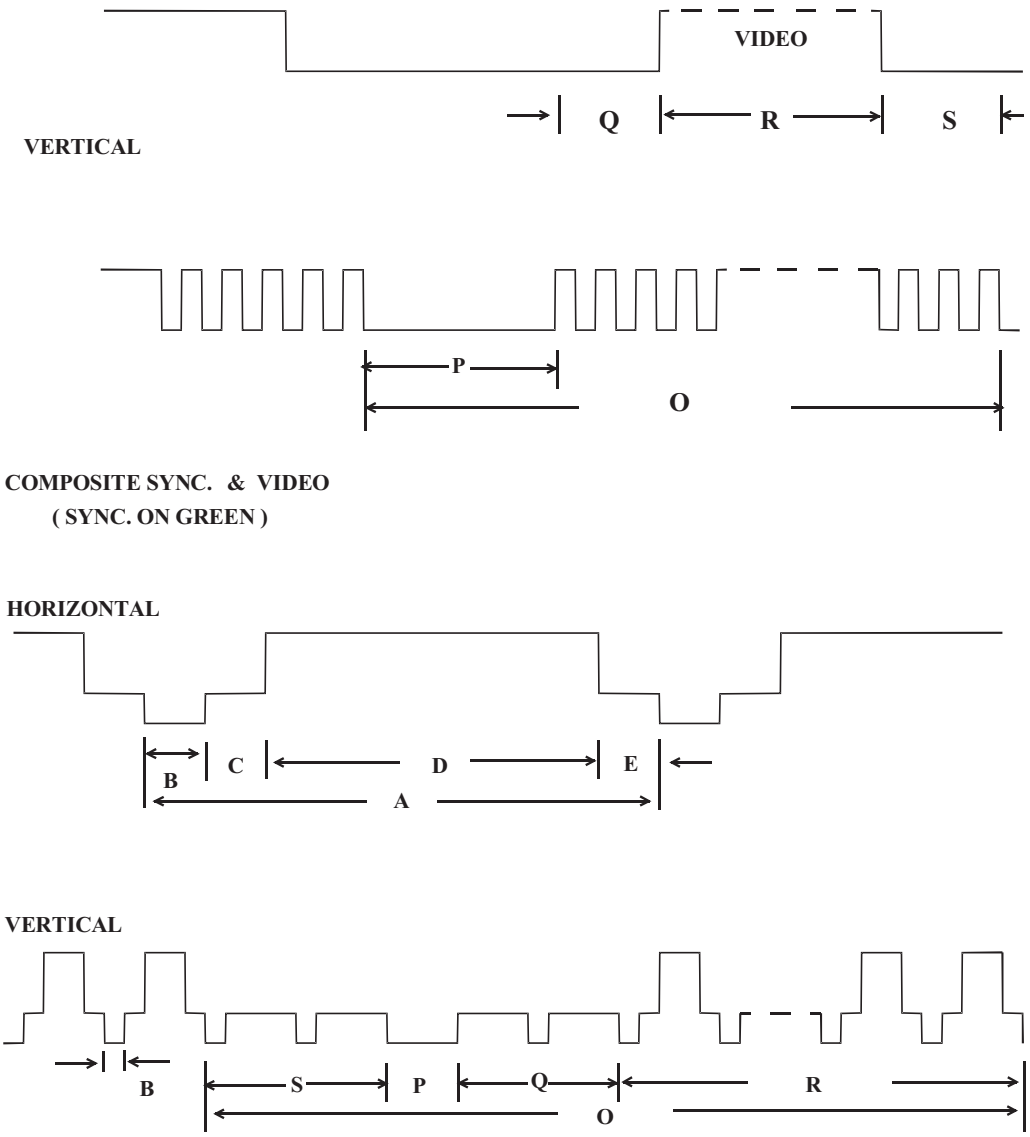


FIG-5 TIMING CHART -2

CLASS NO.	20.1 INCH FT UXGA LCD MONITOR (HUDSON6-200W6) TYPE : 200W6CS/00 BRAND : PHILIPS			8639 000 16138				
2005-02-04								
NAME JERRY CHEN	SUPERS.		25	590 — 25	10		A4	
TY / CHECK	DATE 2005-02-04	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.						

2838 100 05424

Firmware Upgrade for CPU

Configuration and procedure

"Easywriter " The software is provided by Novatek to upgrade the firmware of CPU.
It is a windows-based program, which cannot be run in MS-DOS.
DDC2BI_ISP TOOL (3138 106 10396) is for the interface between "Parallel Port of PC" and "15 pin-D-SUB connector of Monitor".

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/2000/XP.
3. ISP Software " Easywrite "
4. DDC2BI_ISP TOOL (3138 106 10396) as shown in Fig. 1

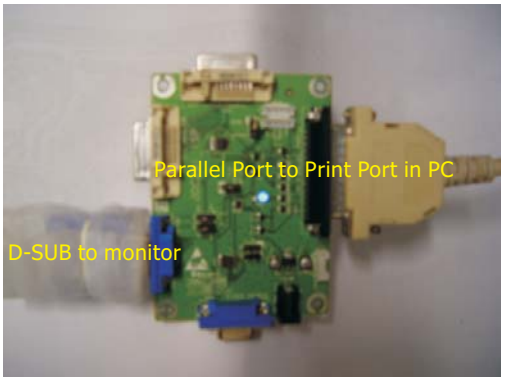


Fig. 1

5. Connect DDC2BI_ISP TOOL and Mains cord to Monitor as shown in Fig. 2.

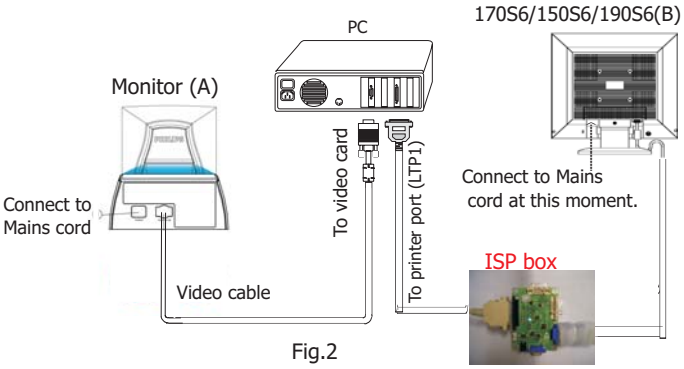


Fig.2

6. Install and setup the Easywriter program

Step 1 : Make a folder in your PC as shown in Fig. 3.
For example : C:\200W6
Step 2 : Copy the Software Easywriter.zip into your folder as shown in Fig.3.
Step 3 : Unzip Easywriter.zip into your folder as shown in Fig. 3.

Step 4 : Double click the EasywriterV2.06a_user.exe icon to install the Application as Fig. 4.

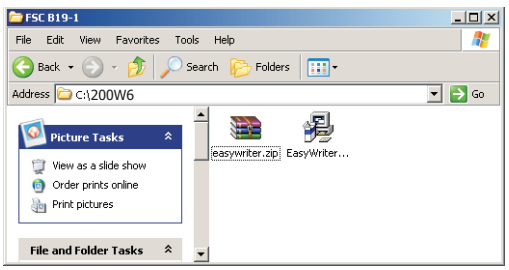


Fig. 3

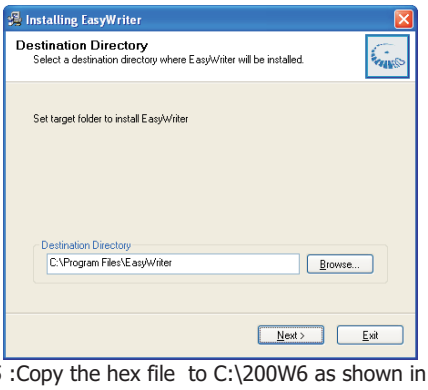


Fig. 4

Step 5 :Copy the hex file to C:\200W6 as shown in Fig. 5 .

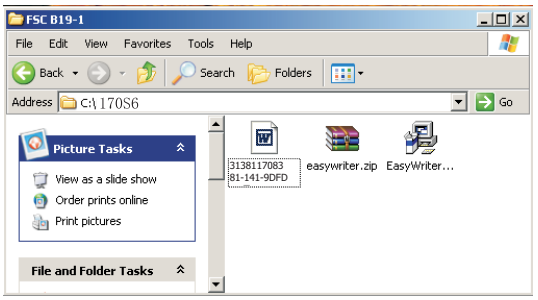


Fig. 5

Update the firmware

1. Double click the Easywriter.exe icon in desktop then appears window as shown in Fig.7 .

Fig. 6

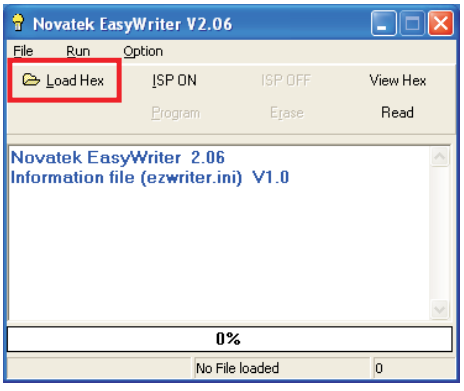


Fig. 7

2. Press the Load hex then select the hex file as shown in Fig. 8.

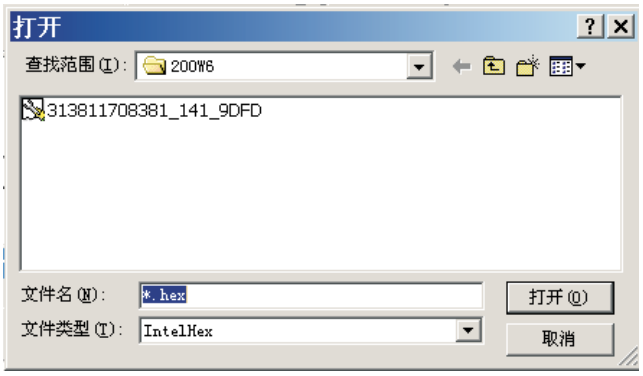


Fig. 8

4 Press the AUTO to running program , the firmware be updated as shown in Fig. 9~10.

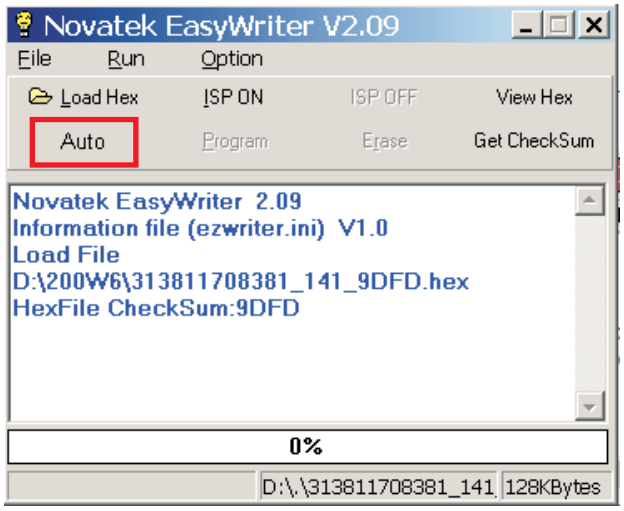


Fig. 9

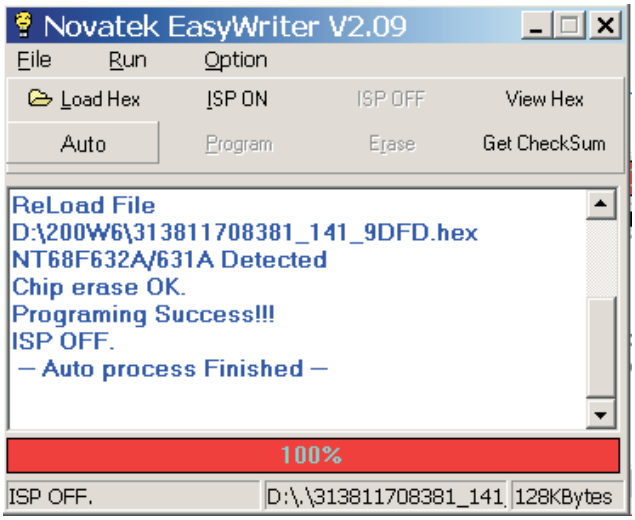


Fig. 10

4 Press the file --> exit to end program , as shown in Fig. 11.

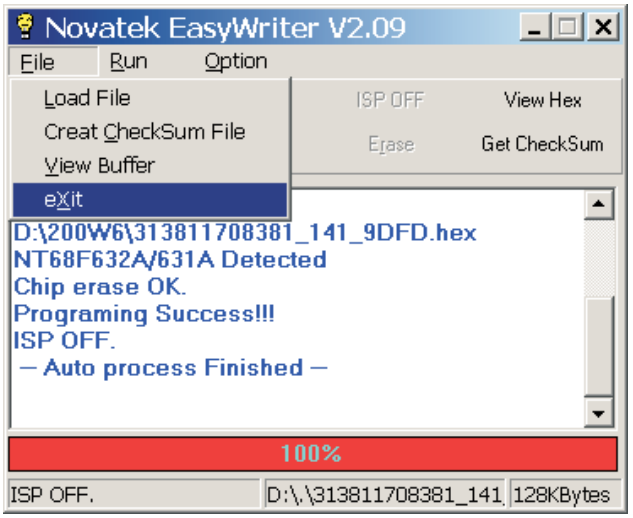


Fig. 11

If there is a warring message coming as shown in Fig 12. , you have to check the AC power, Video cable, or Novatek MCU.

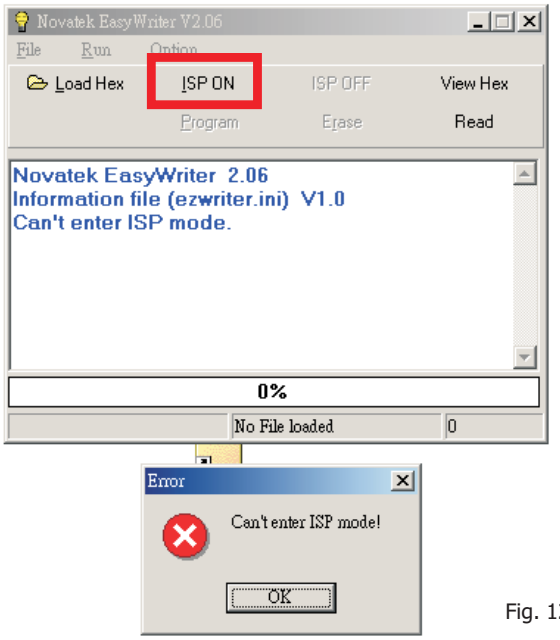


Fig. 12

DDC Instructions

General

DDC Data Re-programming
In case the DDC data memory IC or main EEPROM which storage all factory settings were replaced due to a defect, the serial numbers have to be re-programmed"Analog DDC IC, & EEPROM".
It is advised to re-soldered DDC IC and main EEPROM from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information
Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data(EDID) information may be also obtained from VESA.

System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98 .
   You have to Install the EDID_PORT_Tool under Win2000/XP . As Fig. 1 .

Fig. 1

A. Cody the "UserPort.sys" to C:\WINNT\system32\drivers(win2000) C:\WINDOWS\system32\drivers(winXP)
B. Running " io.exe" everytime, Before you start to programming edid data .
3. EDID46 Release For writing block4.EXE program .
4. DDC 2BI-ISP TOOL:

Inclusion :
A. DDC2BI-ISP TOOL(3138 106 10396) x1 (as Fig. 2)
B. Printer cable x1
c. (D-Sub) to (D-Sub) cable x2
D. D-SUB to DVI cable X1

Note: The EDID46.EXE is a windows-based program, which cannot be run in MS-DOS.

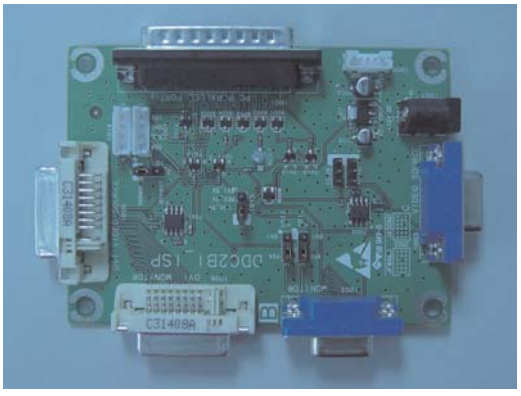


Fig. 2

Pin Assignment

The digital only connector contains 24 signal contacts organized in three rows of eight contacts. Signal pin assignments are listed in the following table:

1.

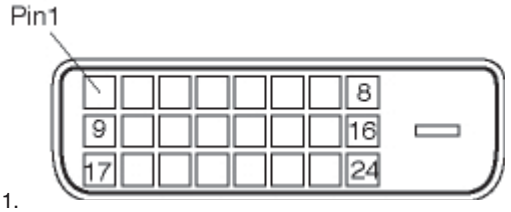


Fig. 3

Pin No.	Signal Assignment	Pin No.	Signal Assignment	Pin No.	Signal Assignment
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	No connect	12	No connect	20	No connect
5	No connect	13	No connect	21	No connect
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock+
8	No connect	16	Hot Plug Detect	24	T.M.D.S. Clock-

2. The 15-pin D-sub connector (male) of the signal cable:

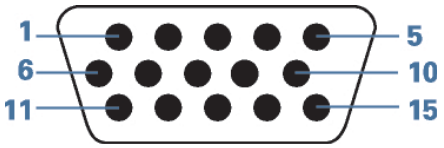


Fig. 4

Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	+5V
2	Green video input/SOG	10	Logic ground
3	Blue video input	11	Ground
4	Ground	12	Serial data line (SDA)
5	No connect	13	H. Sync / H+V
6	Red video ground	14	V. Sync (VCLK for DDC)
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		

Configuration and procedure

There are 3 chips contained OSD string, serial number..etc on the circuit board, main EEPROM which storage all factory settings,OSD string. DDC IC which storage 128byte EDID data(serial number ..etc.). Following descirptions are the connection and procedure for Analog /Digital and main EEPROM can be re-programmed along with Analog/Digital IC by enable factory memory data write function on the DDC program (EDID45.EXE).

Initialize alignment box

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before running programming software (EDID45.EXE). Following steps show you the procedures and connection.

Step 1: Supply 8-12V DC power source to the Alignment box by plugging a DC power cord or using batteries.
Step 2: Connecting printer cable and D-Sub cable of monitor as Fig. 5

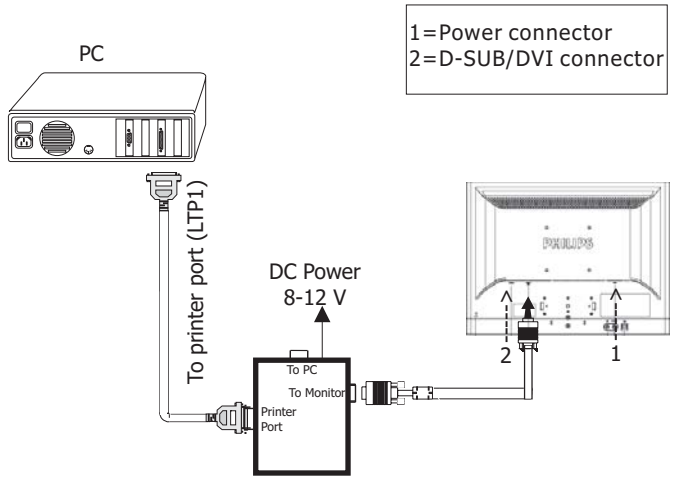


Fig. 5

Step 3: Installation of EDID45.EXE

Method 1: Start on DDC program

Start Microsoft Windows.
1. The Program"EDID45.EXE" in service manual cd-rom be copyed to C:\ .
2. Click Start , choose Run at start menu of Windows as shown In Fig. 6.

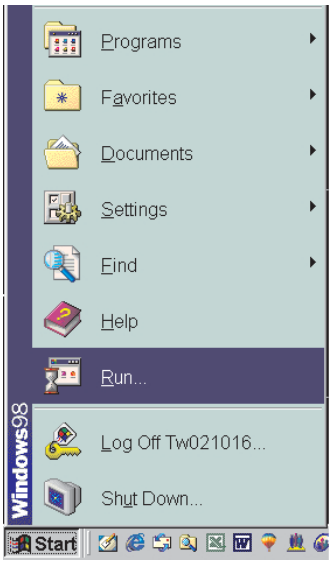


Fig. 6

3. At the submenu, type the letter of your computer's hard disk drive followed by :EDID45 (for example, C:\EDID45, as shown in Fig. 7).

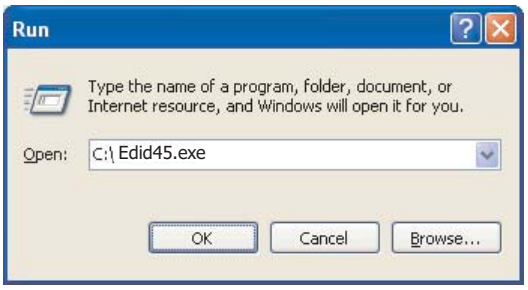


Fig. 7

4. Click OK button. The main menu appears (as shown in Fig. 8). This is for initialize alignment box.

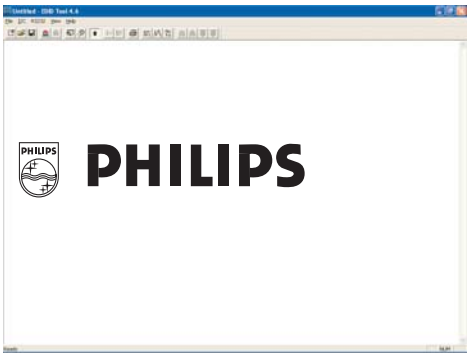


Fig. 8

Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 9) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time,
please make sure all cables are connected correctly and

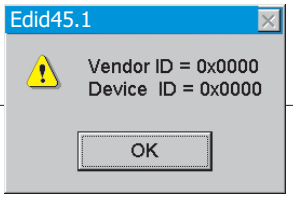


Fig. 9

Note 2: During the loading, EDID45 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.

1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup

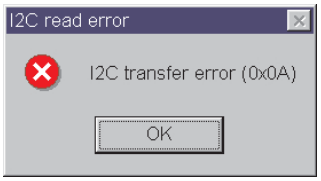


Fig. 10

DDC Instructions

Re-programming Analog DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 11

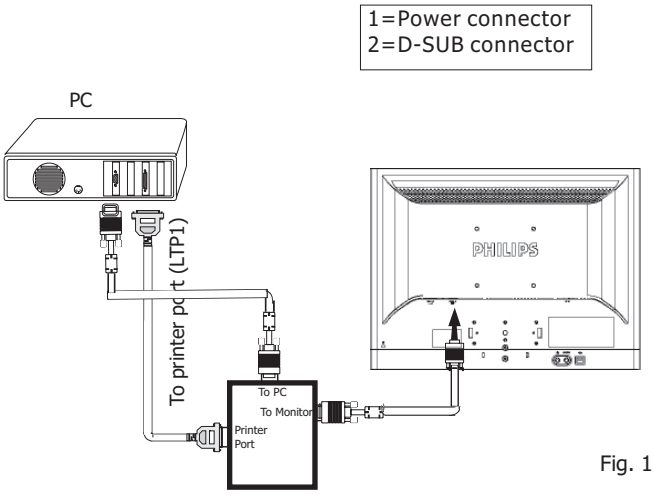


Fig. 11

Step 2: Read DDC data from monitor

1. Click icon as shown in Fig. 11 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 12.

Fig. 12

2. Select the DDC2Bi as the communication channel. As shown in Fig. 13.

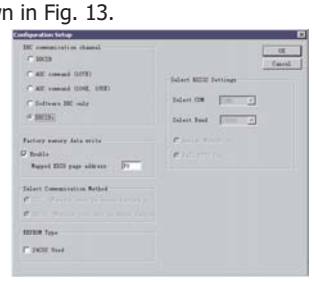


Fig. 13

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 14.

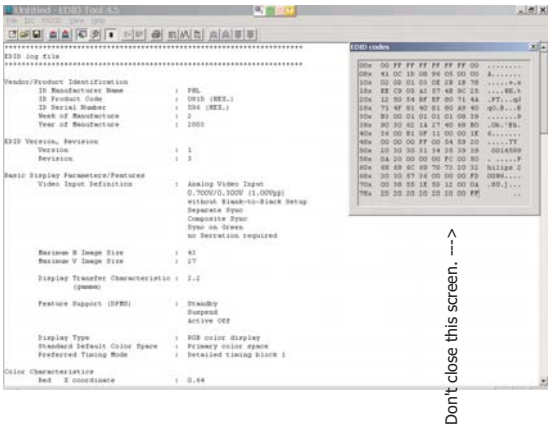


Fig. 14

Step 3: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 15 .
EDID45 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

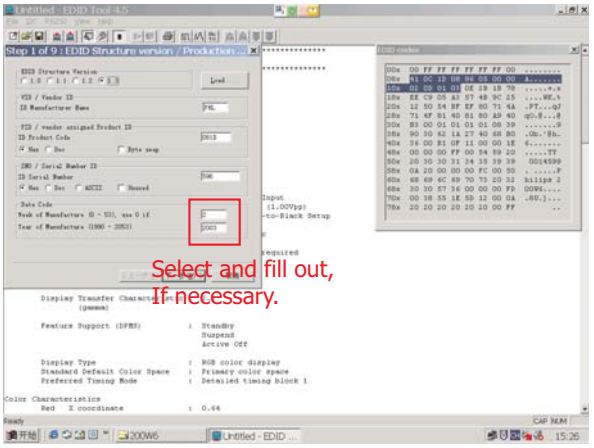


Fig. 15

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next to step7, bring up Fig. 16.
- Serial number can be filled up or be changed at this moment.
- Click next,Finish to exit the Step window.

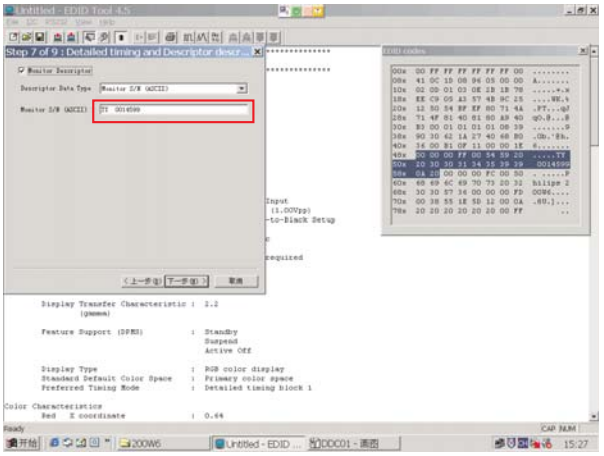


Fig. 16

Re-programming Digital DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 17

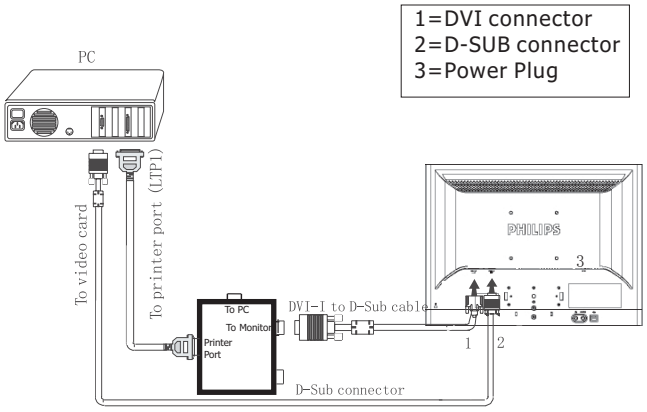


Fig.17

Step 2: Read DDC data from monitor

1. Click  icon as shown in Fig. 18 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 19.

Fig. 18

2. Select the DDC2Bi as the communication channel. As shown in Fig. 19.

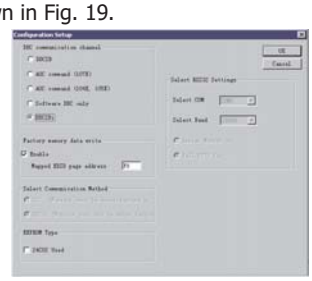


Fig. 19

3. Click OK button to confirm your selection.

4. Click  icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 20.

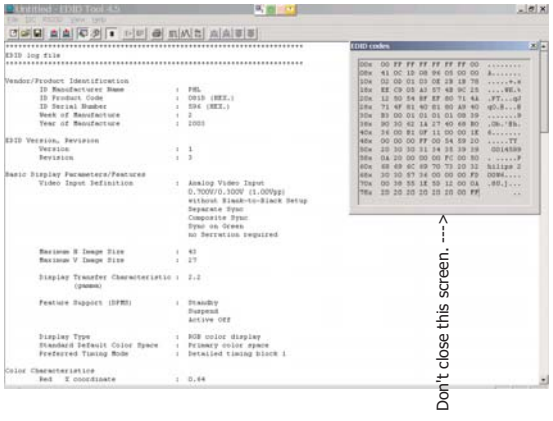


Fig. 20

Step 3: Modify DDC data (verify EDID version, week, year)

1. Click  (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 21 .
EDID45 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

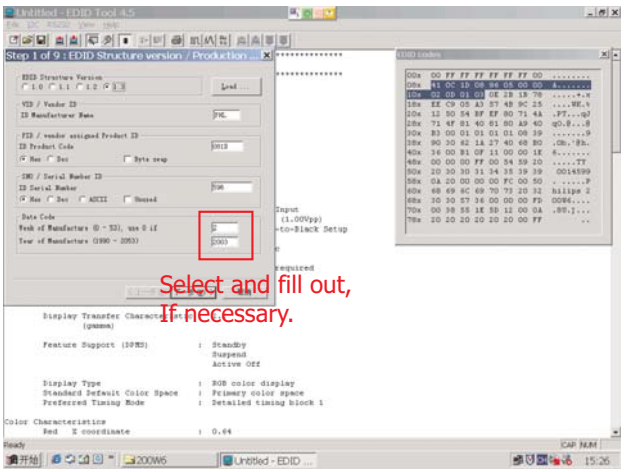


Fig. 21

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next , bring up Fig. 22. Then select Digital Signal as below

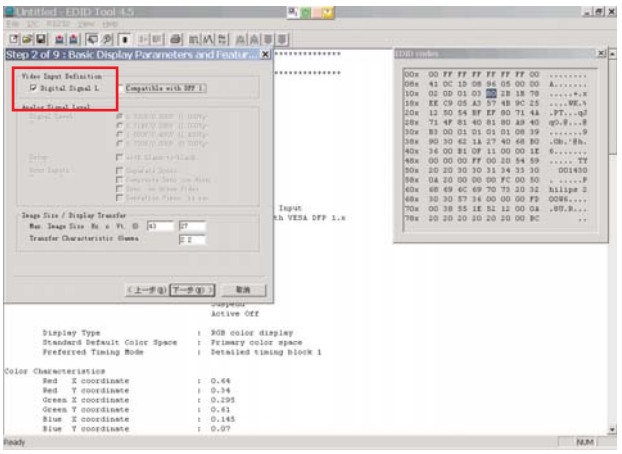


Fig. 22

2. Click Next to step7, bring up Fig. 23.
- Serial number can be filled up or be changed at this moment.
- Click Next, Finish to exit the Step window.

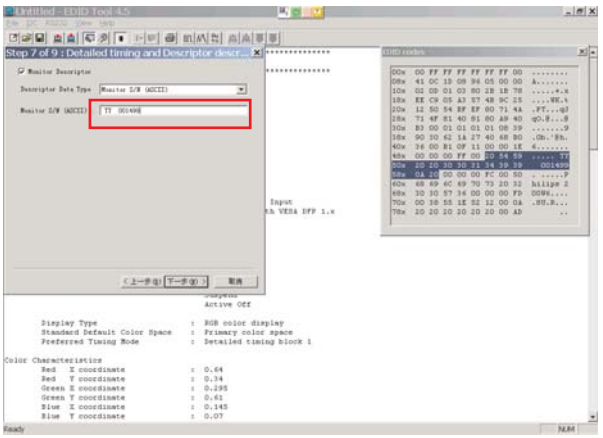


Fig. 23

Step 5: Write DDC data

1. Configuration should be as Fig. 24. And press OK.

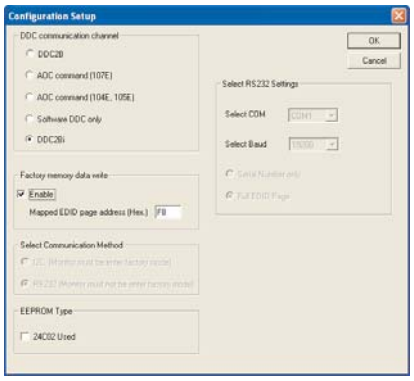


Fig. 24

2. Access Factory Mode

- Turn off monitor.
- [Push AUTO " AUTO " & OK " OK " buttons at the same time and hold it] + [Press power " ⏻ " button untill comes out "Windows screen"] => then release all button

3. Click (Write EDID) icon from the tool bar to write DDC data.

Step 6: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar And give a file name as shown in Fig. 25.
The file type is EDID46 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc flie to re-load it into DDC IC for DDC Data application.

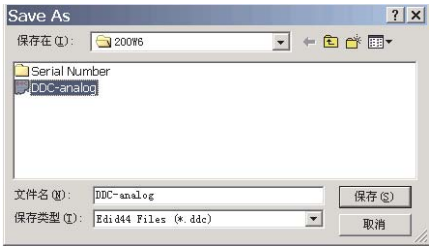


Fig. 25

2. Click Save.

Step 7: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 26.

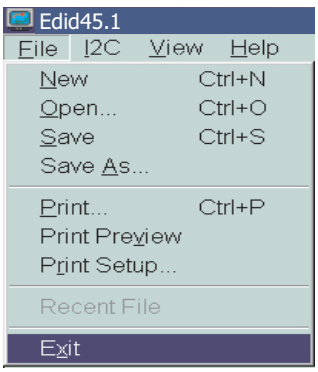


Fig. 26

Step 8: Modify serial number in OSD

-1. Unzip the serial number.zip to your computer, then open the folder as shown in Fig.28.
-2. If use Win98 OS, you can execute SN.exe directly.
If use Win2000 or XP OS, first, you must execute install.bat, then execute SN.exe
-3. Set I2C bus(press the left-top button of operating window) as shown in Fig.28, then press " SET" button.
-4. Set Block2 as shown in Fig.30
-5. key in new serial number, then press " Write" button as shown in Fig.30 , Click " WRITE" button.
-6. It will appear" Serial Number Write OK" , Click" Enter" to finish it.

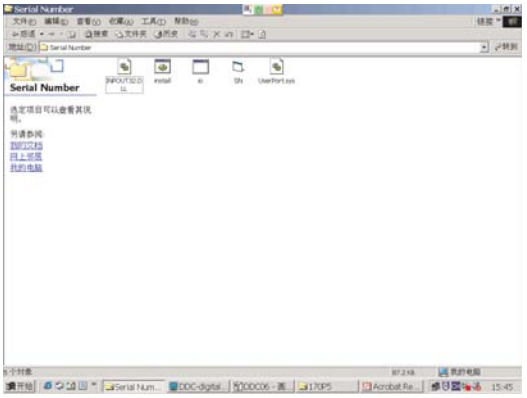


Fig.28

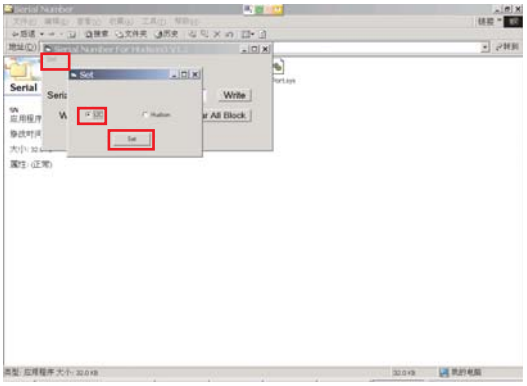


Fig.29

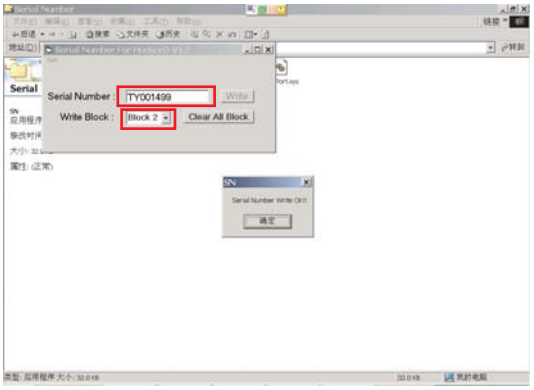


Fig.30

Step9:

-1. Disconnect the monitor power cord and connect it again.
-2. Press the OK button to bring up the OSD main manu.
-3. Re-confirm the serial Number is updated as shown in Fig.31.

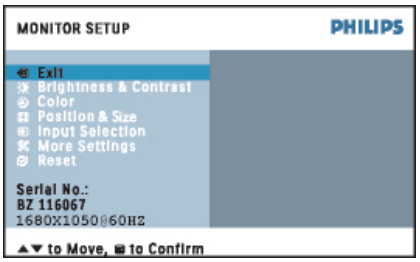


Fig.31

THE DISPLAY DATA CHANNEL (DDC 2B) CONTENT INCLUDING
(FOR HUDSON 6-200W6 Analog LPL and AUO panel)

```
************************************************************************
EDID log file for 200W6 Analog
************************************************************************
Vendor/Product Identification
    ID Manufacturer Name          : PHL
    ID Product Code               : 0832 (HEX.)
    ID Serial Number              : 123456 (DEC.)
    Week of Manufacture           : 2
    Year of Manufacture           : 2005
EDID Version, Revision
    Version                 : 1
    Revision                : 3
Basic Display Parameters/Features
    Video Input Definition        : Analog Video Input
                                    0.700V/0.300V (1.00Vpp)
                                    without Blank-to-Black Setup
                                    Separate Sync
                                    Composite Sync
                                    Sync on Green
                                    no Serration required
    Maximum H Image Size          : 43
    Maximum V Image Size          : 27
    Display Transfer Characteristic : 2.2(gamma)
    Feature Support (DPMS)        : Standby
                                    Suspend
                                    Active Off
    Display Type                  : RGB color display
    Standard Default Color Space  : Primary color space
    Preferred Timing Mode         : Detailed timing block 1
Color Characteristics
    Red   X coordinate            : 0.64
    Red   Y coordinate            : 0.346
    Green X coordinate            : 0.292
    Green Y coordinate            : 0.619
    Blue  X coordinate            : 0.145
    Blue  Y coordinate            : 0.073
    White X coordinate            : 0.313
    White Y coordinate            : 0.329
Established Timings
    Established Timings I       : 720 x 400 @70Hz (IBM,VGA)
                                  640 x 480 @60Hz (IBM,VGA)
                                  640 x 480 @67Hz (Apple,Mac II)
                                  640 x 480 @72Hz (VESA)
                                  640 x 480 @75Hz (VESA)
                                  800 x 600 @56Hz (VESA)
                                  800 x 600 @60Hz (VESA)
    Established Timings II      : 800 x 600 @72Hz (VESA)
                                  800 x 600 @75Hz (VESA)
                                  832 x 624 @75Hz (Apple,Mac II)
                                  1024 x 768 @60Hz (VESA)
                                  1024 x 768 @70Hz (VESA)
                                  1024 x 768 @75Hz (VESA)
                                  1280 x 1024 @75Hz (VESA)
    Manufacturer's timings        : 1152 x 870 @75Hz (Apple,Mac II)

Standard Timing Identification #1
    Horizontal active pixels      : 1152
    Aspect Ratio                  : 4:3
    Refresh Rate                  : 70

Standard Timing Identification #2
    Horizontal active pixels      : 1152
    Aspect Ratio                  : 4:3
    Refresh Rate                  : 75

Standard Timing Identification #3
    Horizontal active pixels      : 1280
    Aspect Ratio                  : 4:3
    Refresh Rate                  : 60

Standard Timing Identification #4
    Horizontal active pixels      : 1280
    Aspect Ratio                  : 5:4
    Refresh Rate                  : 60
Standard Timing Identification #5
    Horizontal active pixels      : 1600
    Aspect Ratio                  : 4:3
    Refresh Rate                  : 60
Standard Timing Identification #6
    Horizontal active pixels      : 1680
    Aspect Ratio                  : 16:10
    Refresh Rate                  : 60
Standard Timing Identification #7
    Horizontal active pixels      : 1680
    Aspect Ratio                  : 16:10
    Refresh Rate                  : 70
Detailed Timing #1
    Pixel Clock (MHz)             : 146
    H Active (pixels)             : 1680
    H Blanking (pixels)           : 560
    V Active (lines)              : 1050
    V Blanking (lines)            : 39
    H Sync Offset (F Porch) (pixels) : 104
    H Sync Pulse Width (pixels)   : 176
    V Sync Offset (F Porch) (lines) : 3
    V Sync Pulse Width (lines)    : 6
    H Image Size (mm)             : 433
    V Image Size (mm)             : 271
    H Border (pixels)             : 0
    V Border (lines)              : 0
    Flags                         : Non-interlaced
                                    : Normal Display, No stereo
                                    : Digital Separate sync.
                                    : Positive Vertical Sync.
                                    : Positive Horizontal Sync.
Monitor Descriptor #2
    Serial Number             :  TY  123456

Monitor Descriptor #3
    Monitor Name              : Philips 200W
Monitor Descriptor #4
    Monitor Range Limits
    Min. Vt rate Hz           : 56
    Max. Vt rate Hz           : 85
    Min. Horiz. rate kHz      : 30
    Max. Horiz. rate kHz      : 93
    Max. Supported Pixel      : 170
    No secondary GTF timing formula supported.
Extension Flag                : 0
Check sum                     : 92 (HEX.)

************************************************************************
EDID data (128 bytes)
************************************************************************
 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 32 11: 08 12: 40 13: e2 14: 01 15: 00
16: 02 17: 0f 18: 01 19: 03 20: 0e 21: 2b 22: 1b 23: 78
24: ee 25: ee 26: 35 27: a3 28: 58 29: 4a 30: 9e 31: 25
32: 12 33: 50 34: 54 35: bf 36: ef 37: 80 38: 71 39: 4a
40: 71 41: 4f 42: 81 43: 40 44: 81 45: 80 46: a9 47: 40
48: b3 49: 00 50: b3 51: 0a 52: 01 53: 01 54: 08 55: 39
56: 90 57: 30 58: 62 59: 1a 60: 27 61: 40 62: 68 63: b0
64: 36 65: 00 66: b1 67: 0f 68: 11 69: 00 70: 00 71: 1e
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 32
104: 30 105: 30 106: 57 107: 0a 108: 00 109: 00 110: 00 111: fd
112: 00 113: 38 114: 55 115: 1e 116: 5d 117: 11 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 92
```

DDC Data

THE DISPLAY DATA CHANNEL (DDC 2B) CONTENT INCLUDING
(FOR HUDSON 6-200W6 Digital LPL and AUO panel)
****

EDID log file for 200W6 Digital
****

Vendor/Product Identification
- ID Manufacturer Name : PHL
- ID Product Code : 0832 (HEX.)
- ID Serial Number : 123456 (DEC.)
- Week of Manufacture : 2
- Year of Manufacture : 2005

EDID Version, Revision
- Version : 1
- Revision : 3

Basic Display Parameters/Features
- Video Input Definition : Digital Video Input
  Compatible with VESA DFP 1.x
- Maximum H Image Size : 43
- Maximum V Image Size : 27
- Display Transfer Characteristic (gamma) : 2.2
- Feature Support (DPMS) : no Standby
  no Suspend
  Active Off
- Display Type : RGB color display
- Standard Default Color Space : Primary color space
- Preferred Timing Mode : Detailed timing block 1

Color Characteristics
- Red X coordinate : 0.64
- Red Y coordinate : 0.346
- Green X coordinate : 0.292
- Green Y coordinate : 0.619
- Blue X coordinate : 0.145
- Blue Y coordinate : 0.073
- White X coordinate : 0.313
- White Y coordinate : 0.329

Established Timings
- Established Timings I : 720 x 400 @70Hz (IBM,VGA)
  640 x 480 @60Hz (IBM,VGA)
  640 x 480 @67Hz (Apple,Mac II)
  640 x 480 @72Hz (VESA)
  640 x 480 @75Hz (VESA)
  800 x 600 @56Hz (VESA)
  800 x 600 @60Hz (VESA)
- Established Timings II : 800 x 600 @72Hz (VESA)
  800 x 600 @75Hz (VESA)
  832 x 624 @75Hz (Apple,Mac II)
  1024 x 768 @60Hz (VESA)
  1024 x 768 @70Hz (VESA)
  1024 x 768 @75Hz (VESA)
  1280 x 1024 @75Hz (VESA)
- Manufacturer's timings : 1152 x 870 @75Hz (Apple,Mac II)

Standard Timing Identification #1
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 70

Standard Timing Identification #2
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 75

Standard Timing Identification #3
- Horizontal active pixels : 1280
- Aspect Ratio : 4:3
- Refresh Rate : 60

Standard Timing Identification #4
- Horizontal active pixels : 1280
- Aspect Ratio : 5:4
- Refresh Rate : 60

Standard Timing Identification #5
- Horizontal active pixels : 1600
- Aspect Ratio : 4:3
- Refresh Rate : 60

Standard Timing Identification #6
- Horizontal active pixels : 1680
- Aspect Ratio : 16:10
- Refresh Rate : 60

Detailed Timing #1
- Pixel Clock (MHz) : 146
- H Active (pixels) : 1680
- H Blanking (pixels) : 560
- V Active (lines) : 1050
- V Blanking (lines) : 39
- H Sync Offset (F Porch) (pixels): 104
- H Sync Pulse Width (pixels) : 176
- V Sync Offset (F Porch) (lines) : 3
- V Sync Pulse Width (lines) : 6
- H Image Size (mm) : 433
- V Image Size (mm) : 271
- H Border (pixels) : 0
- V Border (lines) : 0
- Flags : Non-interlaced
  : Normal Display, No stereo
  : Digital Separate sync.
  : Positive Vertical Sync.
  : Positive Horizontal Sync.

Monitor Descriptor #2
- Serial Number : TY 123456

Monitor Descriptor #3
- Monitor Name : Philips 200W

Monitor Descriptor #4
- Monitor Range Limits
- Min. Vt rate Hz : 56
- Max. Vt rate Hz : 85
- Min. Horiz. rate kHz : 30
- Max. Horiz. rate kHz : 93
- Max. Supported Pixel : 170
- No secondary GTF timing formula supported.

Extension Flag : 0
Check sum : 9A (HEX.)
****

EDID data (128 bytes)
****

```
 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 32 11: 08 12: 40 13: e2 14: 01 15: 00
16: 02 17: 0f 18: 01 19: 03 20: 81 21: 2b 22: 1b 23: 78
24: 2e 25: ee 26: 35 27: a3 28: 58 29: 4a 30: 9e 31: 25
32: 12 33: 50 34: 54 35: bf 36: ef 37: 80 38: 71 39: 4a
40: 71 41: 4f 42: 81 43: 40 44: 81 45: 80 46: a9 47: 40
48: b3 49: 00 50: 01 51: 01 52: 01 53: 01 54: 08 55: 39
56: 90 57: 30 58: 62 59: 1a 60: 27 61: 40 62: 68 63: b0
64: 36 65: 00 66: b1 67: 0f 68: 11 69: 00 70: 00 71: 1e
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 32
104: 30 105: 30 106: 57 107: 0a 108: 00 109: 00 110: 00 111: fd
112: 00 113: 38 114: 55 115: 1e 116: 5d 117: 11 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 9a
```

Common Problems

Having this problem	Check these items
No Picture (Power LED not lit)	• Make sure the power cord is plugged into the power outlet and into the back of the monitor. • First, ensure that the power button on the front of the monitor is in the OFF position, then press it to the ON position.
No Picture (Power LED is amber or yellow)	• Make sure the computer is turned on. • Make sure the signal cable is properly connected to your computer. • Check to see if the monitor cable has bent pins. • The Energy Saving feature may be activated
Screen says 	• Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Set-Up Guide). • Check to see if the monitor cable has bent pins. • Make sure the computer is turned on.
AUTO button not working properly	• The Auto Function is designed for use on standard Macintosh or IBM-compatible PCs running Microsoft Windows. • It may not work properly if using nonstandard PC or video card.

Imaging Problems

Display position is incorrect	• Press the Auto button. • Adjust the image position using the Horizontal Position and/or Vertical Position in OSD Main Controls.
Image vibrates on the screen	• Check that the signal cable is properly connected to the graphics board or PC.
Vertical flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Clock Adjustment of VIDEO NOISE in OSD Main Controls.

Trouble Shooting

Horizontal flicker appears 	• Press the Auto button. • Eliminate the horizontal bars using the Phase Adjustment of VIDEO NOISE in OSD Main Controls.
The screen is too bright or too dark	• Adjust the contrast and brightness on OSD Main Controls. (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer).
An after-image appears	• If an image remains on the screen for an extended period of time, it may be imprinted in the screen and leave an after-image. This usually disappears after a few hours
An after-image remains after the power has been turned off.	• This is characteristic of liquid crystal and is not caused by a malfunction or deterioration of the liquid crystal. The after-image will disappear after a peroid of time.
Green, red, blue, dark, and white dots remains	• The remaining dots are normal characteristic of the liquid crystal used in today□s technology.

0. Warning

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential !

1. Servicing of SMDs (Surface Mounted Devices)

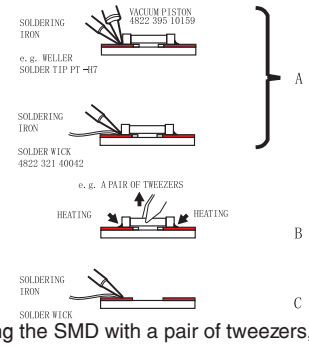
1.1 General cautions on handling and storage

- Oxidation on the terminals of SMDs results in poor soldering. Do not handle SMDs with bare hands.
- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.
- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

1.2 Removal of SMDs

- Heat the solder (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 1A)

Fig. 1 DISMOUNTING



While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).

- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

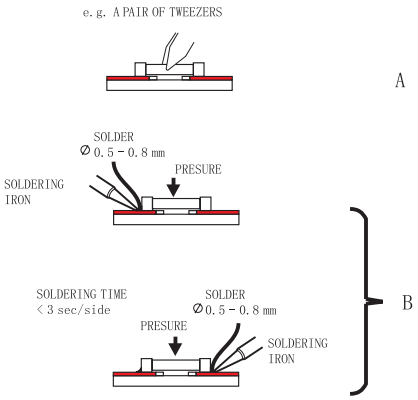
1.3 Caution on removal

- When handling the soldering.iron. use suitable pressure and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- The chip, once removed, must never be reused.

1.4 Attachment of SMDs

- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig.2A).
- Next complete the soldering of the terminals of the component (see Fiq. 2B).

Fig. 2 MOUNTING



2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).

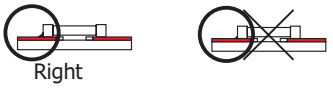
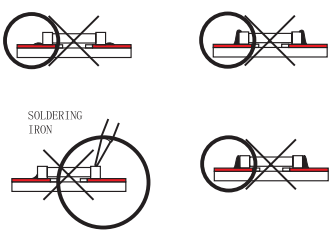


Fig.3 Examples



3. Lead-free product identification
You can identify lead-free product by Philips-lead-free logo on PCB.

4. Lead-free product repair instruction
4.1 Use only lead-free Solder Alloy 0622 149 00106(1.2mm SAC305) or 0622 149 00108(1.0mm SAC305).
Remark: For lead free soldering material, please visit www.alphametals.com website for details. This is recommended by Philips.

4.2 Use only adequate solder tools applicable for lead-free soldering-tin. The solder tool must be able to reach at least a solder-temperature of 400℃, to stabilize the adjusted temperature at the solder-tip and to exchange solder-tips for different applications.
Small Passives/Actives to be removed with thermal tweezers
Automated system for IC and BGA repair (Microscope, Camera, Beam split optics, Computer, Programmer, Heat controllers, Vacuum system, Laser pointer)
Solder Hand-Tool (Adjustable in temperature height, Temperature shall be held constant, Flexible tips)

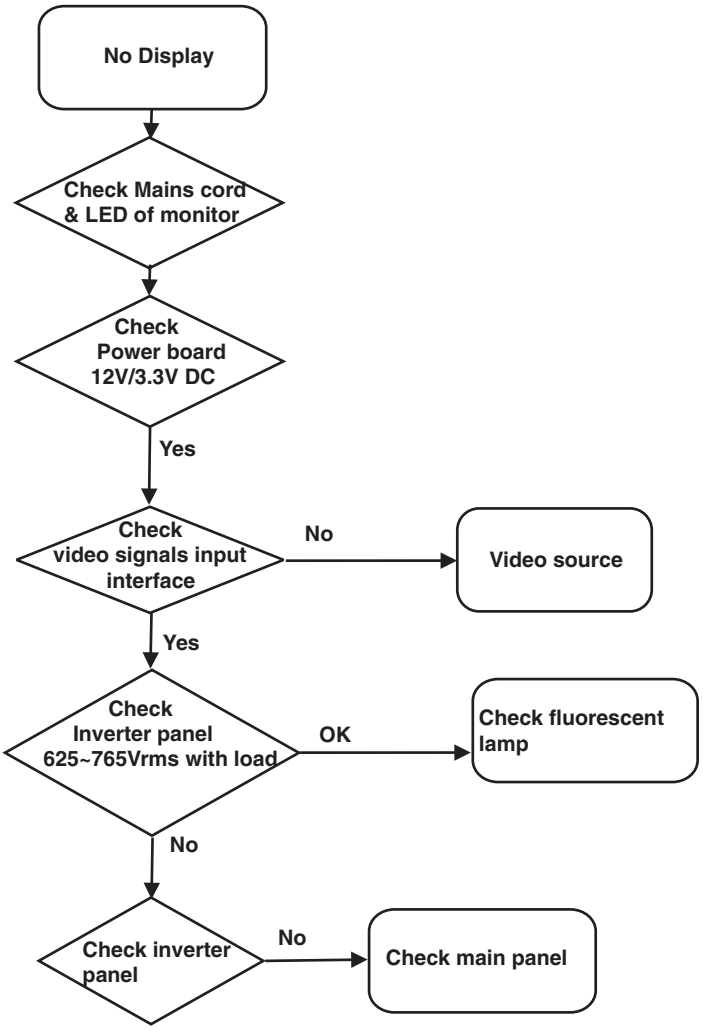
4.3 Adjust your solder tool so that a temperature around 360℃-380℃ is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400℃ otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed.

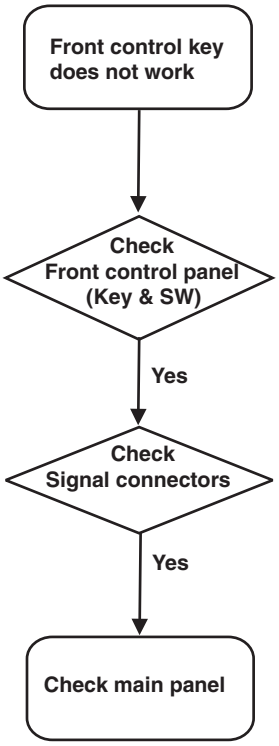
Corrosion of Tool-Spikes can be avoided when using SAC305 and a temperature of less than 400℃.

4.4 Mix of lead-free solder-tin/parts with leaded soldering-tin/parts is possible but not recommended. If not to avoid clean carefully the solder-joint from old tin and re-solder with new tin.

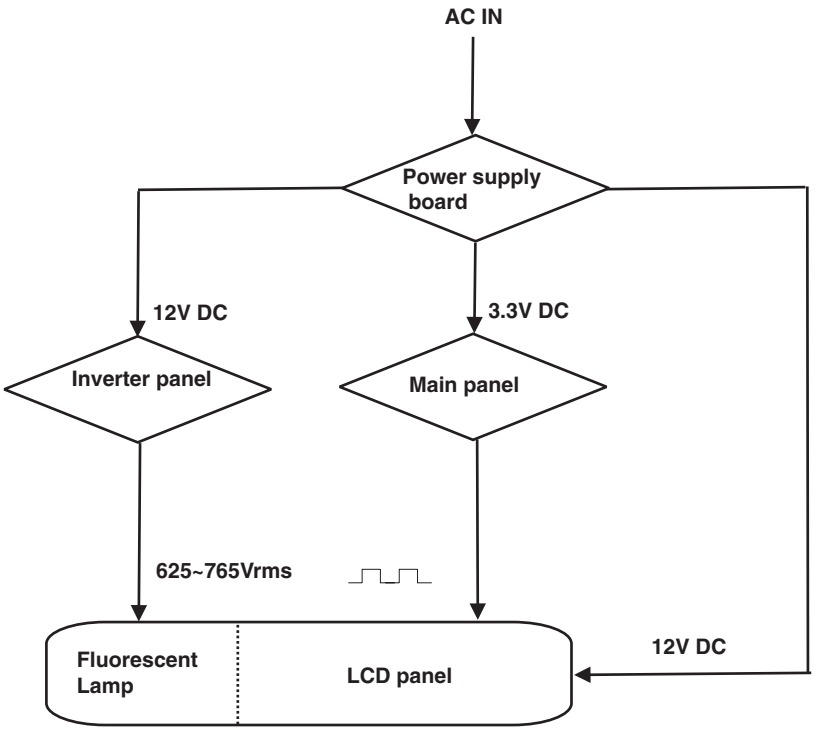
4.5 Use only original spare-parts listed in the Service-Manuals. Standard-material (consumables) can also be purchased at external companies.
4.6 Special information for lead-free BGA-ICs: this ICs will be delivered in so-called dry-packaging to protect the IC against moisture and with lead-free logo on it. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets wet inside and during the heating time the structure of the IC will be destroyed due to high (steam-)pressure. If the packaging was opened before usage the IC has to be heated up for some hours (around 90℃) for drying (Take attention for ESD-protection!)

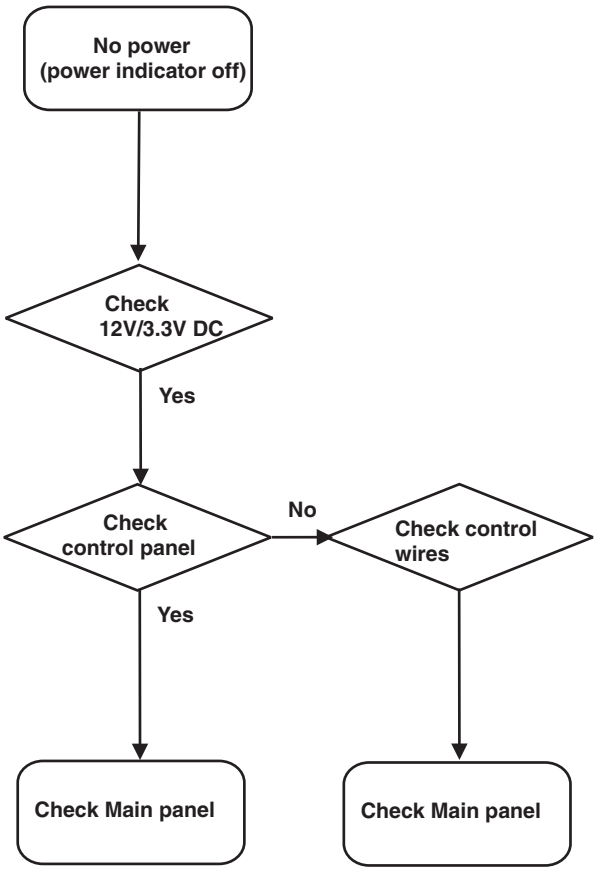
5. Rework on BGA (Ball Grid Array) ICs
General
Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.
Device Removal
As is the case with any component that, it is essential when removing an (LF)BGA, the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the chance of warping the PWB.
To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.
Area Preparation
When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.
Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent. After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the(LF)BGA
Note: Do not apply solder paste, as this has shown to result in problems during re-soldering.
Device Replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. To reflow the solder, apply a temperature profile according to the IC data sheet. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.
More Information
For more information on how to handle BGA devices, visit this URL: http://www.atyourservice.ce.philips.com (needs subscription). After login, select Magazine , then go to Workshop Information . Here you will find Information on how .to deal with BGA-ICs.

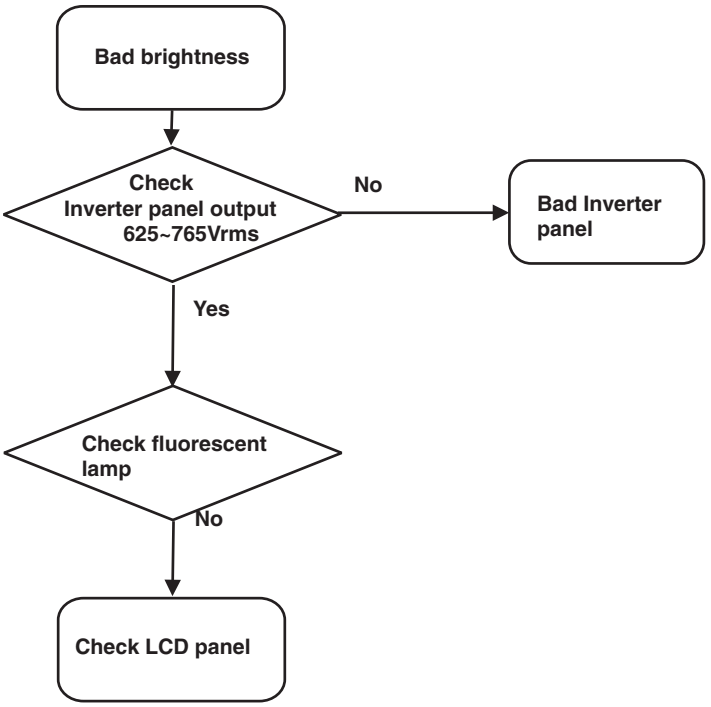

No Display
Check Mains cord & LED of monitor
Check Power board 12V/3.3V DC
Yes
Check video signals input interface
No
Video source
Yes
Check Inverter panel 625~765Vrms with load
OK
Check fluorescent lamp
No
Check inverter panel
No
Check main panel

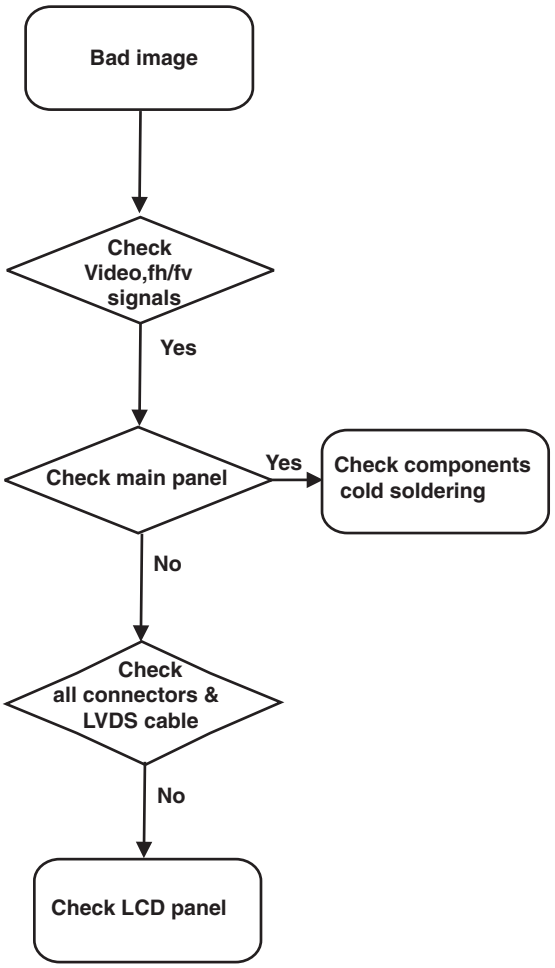

Front control key does not work
Check Front control panel (Key & SW)
Yes
Check Signal connectors
Yes
Check main panel

Repair Flow Chart






Bad brightness
Check
Inverter panel output
625~765Vrms
No
Bad Inverter
panel
Yes
Check fluorescent
lamp
No
Check LCD panel


Bad image
Check
Video,fh/fv
signals
Yes
Check main panel
Yes
Check components
cold soldering
No
Check
all connectors &
LVDS cable
No
Check LCD panel

Safety Test Requirements

All units that are returned for service or repair must pass the original manufactures safety tests. Safety testing requires both *Hipot* and *Ground Continuity* testing.

HI-POT TEST INSTRUCTION

1.Application requirements

1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.

1.2 This test must be performed again after the covers have been refitted following the repair, inspection or modification of the product.

2. Test method

2.1 Connecting conditions

2.1.1 The test specified must be applied between the parallel-blade plug of the mainscord and all accessible metal parts of the product.

2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.

2.1.3 The mains switch(es) must be in the "ON" position.

2.2 Test Requirements

All products should be HiPot and Ground Continuity tested as follows:

Condition	HiPot Test for products where the mains input range is Full range(or 220V AC)	HiPot Test for products where the mains input is 110V AC(USA type)	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A,AC Test time: 3 seconds(min.) Resistance required: <=0.09+Rohm, R is the resistance of the mains cord.
Test time (min.)	3 seconds	1 second	
Trip current (Tester)	set at 100 uA for Max. limitation; set at 0.1 uA for Min. Limitation	5 mA	
Ramp time (Tester)	set at 2 seconds		

2.2.1 The minimum test duration for Quality Control Inspector must be 1 minute.

2.2.2 The test voltage must be maintained within the specified voltage + 5%.

2.2.3 There must be no breakdown during the test.

2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

3. Equipments and Connection

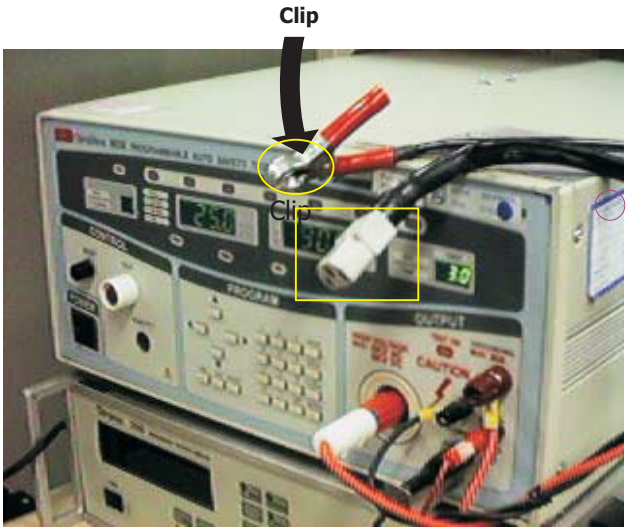
3.1. Equipments

For example :

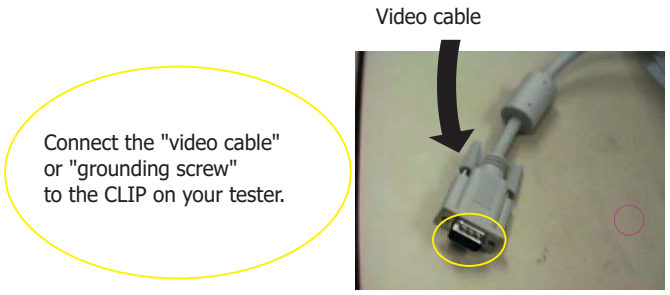
- ChenHwa 9032 PROGRAMMABLE AUTO SAFETY TESTER
- ChenHwa 510B Digital Grounding Continuity Tester
- ChenHwa 901 (AC Hi-pot test), 902 (AC, DC Hi-pot test) Withstanding Tester

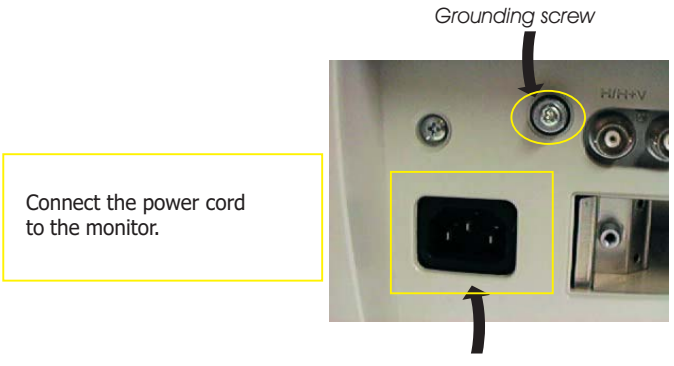
3.2. Connection

* Turn on the power switch of monitor before Hipot and Ground Continuity testing.



(ChenHwa 9032 tester)





(Rear view of monitor)

Hipot and Ground Continuity testing records have to be kept for a period of 10 years.

Diversity of 200W6CB/27 compared with 200W6CS/00		
Item	12NC	Description
	200W6CB/27	863900016141
0030	313815759491	FRONT BEZEL ASSY(B)
0031	313815416221	BEZEL (B)
0032	313815416251	CONTROL BUTTON(B)
0034	313815416241	DECO STRIP
0040	313815759501	BACK COVER ASSY(B)
0041	313815416231	BACK COVER(B)
0042	313815416271	VENTILATION COVER(S)
0050	313815759511	COMPACT BASE(B)
0100	313815416261	HINGE COVER(B)
1061	313818870491	MAINSCORD UL 10A 1M8 DET BK
1062	242203300265	CON ACC ADP V 15P F MA-002 B

Safety Checks

After the original service problem has been corrected,a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition,which could be unknowingly passed on to your customer. Be sure to check all of the following:

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barries, covers, strain reliefs, and other hardware have been installed in accordance with the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints,solder splashes,sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord).Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout,lead length, and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with ans by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbols on the schematic diagrams and/or exploded views.
7. When servicing any unit, always use a separate isolation transformer for the chassis Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug.) Defeating this safety feature may create a potential hazard to the service and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After reassembly of the unit, always perform an leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also check all metal control shafts(with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit may be safety operated without danger of electrical shock.

* Broken line

Implosion

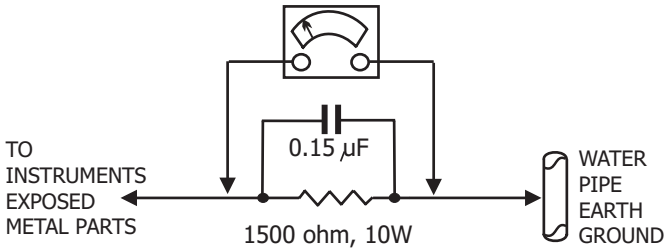
1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn,whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.
2. Use only replacement tubes specified by the manufacturer.

X-radiation

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of an x-radiation problem. High voltage should always be kept at the manufacturer's rated value-no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do
6. New picture tubes are specifically designed to withstand higher operathng voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-diation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.
2. Connect a 1.5k, 10w resistor paralleled by a 0.15uf. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed.(Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Picture Tube Replacement

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

Parts Replacement

Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards

WARNING : Before removing the CRT anode cap, turn the unit **OFF** and short the HIGH VOLTAGE to the CRT DAG ground.
SERVICE NOTE : The CRT DAG is not at chassis ground.